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With Which Is Combined

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Asks Bids on 54,300,000 Pounds of Paper

Joint Congressional Committee on Printing Will Open Bids January 27 on Numerous Varieties of Paper For the Use of the Government Printing Office for the Fiscal Year Beginning March 1, 1930—Awards Will Be Made One Week Later February 3—Paper Specifications Committee Submits Its Report

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 18, 1929.—Bids will be received on January 27 by the Joint Congressional Committee on Printing for approximately 54,300,000 pounds of paper for the use of the Government Printing Office for the fiscal year beginning March 1, 1930.

Bids will also be opened at the same time by the Committee for approximately 39,057,000 envelopes. Awards on the items will be made one week later.

Last year the Printing Office purchased about 50,850,000 pounds of paper almost 4,000,000 pounds less than that estimated for the coming year while about 4,000,000 pounds less envelopes were also purchased last year or 35,910,000.

Report of Specifications Committee

The Paper Specifications Committee of the Joint Committee of which F. P. Veitch, of the Bureau of Chemistry is chairman submitted the following report to the Congressional Committee;

The Committee on Paper Specifications respectfully submits its Twenty-first Report and the recommended schedule for paper for the public printing and binding and blank paper for the use of the Government departments and establishments in the District of Columbia for the year beginning March 1, 1930. Very few changes are recommended in the schedule since the revisions made during the past few years have proven very satisfactory to the Government in the purchase of paper and have met with the approval of the paper manufacturers. The recommended modifications are as follows:

Paragraph 15 of the Instructions (formerly par. 12), which on current contract leaves it optional with the contractor to furnish any amount over the estimated quantity contracted for under any one specification, has been modified so as to limit the quantity that may be purchased under any one specification to 50 per cent more than the quantities contracted for under that specification. Liability of the United States has been limited to the quantity ordered and actually delivered. These changes have been made in order that the bidder may know the total quantity of paper he may be required to furnish under any one specification, and to enable the Government Printing Office to meet the unforeseen demands from the various Government organizations.

The provision added last year in paragraphs 46 and 47 of the Instructions in the Proposal permitting the use of solid or corrugated fiber-board containers for packing certain grades of paper has been eliminated. The experience of the Government Printing Office during the present year with these containers has been unsatisfactory.

Under paragraphs 37, 38, 43, and 48 of the Instructions in the Proposal, descriptions are given as to the methods used for determining acidity, tensile strength, rosin sizing, and water resistance of binders' board as covered in these specifications.

The requirement for bursting strength in the specifications for Standard News Print has been eliminated and deplaced with a requirement for tensile strength. The results of an investigation being conducted by the Government Printing Office and the American Newspaper Publishers Association have shown that the tensile strength is more satisfactory for measuring the strength of news print to insure satisfactory running on web presses.

The cost of the commonly used paper-making materials, especially the cost of wood, has been steadily increasing for many years. Paper makers are constantly looking for new and cheaper raw materials. Furthermore, the work on the utilization of certain farm by-products which has been under way again for the past three or four years indicates that it may be practicable to use certain of these by-products in paper making. Moreover, if this should finally prove practicable, it may be profitable to agriculture as well as to paper making to extend such help as seems practicable in the accomplishment of these desirable ends. The committee has again included in the schedule specifications for plant fiber, machine-finished book paper, Lot 16, limiting paper under this item to those made from corn or cotton stalks, flax, or cereal straws, wild or cultivated grasses, or some plants of like classes, singly or mixed in any proportion, together with bleached chemical wood fiber and rag fiber. Especial attention is called to the fact that papers made of cotton linters or any of the paper-making raw materials that have been commonly used in recent years will not be regarded as meeting the requirements of these specifications for new materials.

Owing to the interest which has developed during recent years in the permanency of paper, the Committee has carefully considered the addition of requirements which will insure maximum serviceability and permanency in certain grades of paper. Definite requirements as to acidity and rosin sizing were added last year to the specifications for 100 per cent rag book and 100 per cent rag ledger. This year similar requirements have been added to several other grades of paper and the maximum allowable rosin sizing reduced in 100 per cent rag ledger. The following is a list of the grades of paper, the specifications for which now include requirements as to acidity and rosin sizing:

Antique Book.

50 per cent Rag Machine-finish Book.

(*Continued on page 74*)

Nova Scotia's First News Print Mill Opened

Feature of Inauguration Was Production of Newspaper Within Mill Itself Fresh From Rollers —Big Machines Have Capacity of 250 Tons Daily, Representing 375 Cords of Pulpwood—Built at Tide-water, Output Can be Shipped by Ocean Vessels

MONTREAL, Que., December 16, 1929.—A feature believed to be unique in the history of the paper trade marked the formal inauguration of Nova Scotia's first news print mill on Saturday last. This was the production, within the news print mill itself of a newspaper printed on paper fresh from the rollers. Thus the visitors had the opportunity of seeing the whole process of converting trees fresh from the forest, first into pulp, then into paper, and then into newspaper carrying a chronical of the events of the day.

Second Largest Industry

The occasion was the opening of the Mersey Paper Company's $14,000,000 mill at Brooklyn, Queen's County, N. S. This mill now represents the second largest industry in Nova Scotia. Hundreds of people from all parts of the Province, headed by the Premier, Hon. E. N. Rhodes, together with representatives of the news print industry in all its ramifications, were present, and saw the transformation of pulpwood into the Mersey Times, a newspaper recording in picture and story the events of the day. The achievement was rendered possible by the installation for the occasion of a complete newspaper plant equipped with press, linotype and photo-engraving departments.

The Mersey Times was made up of 48 pages and contained a complete description of the new plant as well as the opening ceremony. It was printed on the first paper made at the mill and was published under the direction of E. H. Dennis of the Halifax Herald.

First Newspaper in Canada

The first newspaper to make its bow in Canada was the Halifax Gazette which appeared in 1752. Paper was produced from wood pulp in Nova Scotia by Charles Fenerty in 1839, this being claimed to be the first occasion on which wood pulp had ever been made into paper.

Premier Rhodes Sets Wheels In Motion

Premier Rhodes pressed the button setting the wheels in motion. The series of processing machines at once swung into action, barking, chipping, grinding and digesting Nova Scotia wood, and turning out the finished product at the source of the raw material.

Work Started June, 1928

Work on the Mersey plant started in June, 1928. Today the machines have a capacity of 250 tons of news print per day, representing the refining of 375 cords of pulpwood. Built of solid rock at tidewater, the mill stands at the mouth of the Mersey the largest river in the Province. Thus the output can be shipped by means of ocean vessels, the distance by water from New York being only about 480 miles.

Adequate Power Assured

The driving force behind the mill is the river at the outlet of which it stands. The power developments have been carried out by the Nova Scotia Power Commission, which supplied the mill with about 19,000 h.p. The fresh water required, about 13,000,000 gallons daily, is obtained from two lakes immediately adjacent to the mill. The general manager of the mill is Col. C. H. L. Jones.

The Mersey Paper Company, Ltd., was incorporated on July 31, 1928, and is the creation of I. W. Killam of Montreal, who has been intimately connected with news print for practically all his life. As a boy he sold papers in the streets of Yarmouth, N. S., where he was born, and today among other interests he numbers ownership of a Canadian daily newspaper, the Mail and Empire, of Toronto.

F. L. McClellan Retires

In its issue of December 1 the Minneapolis Journal says: "Today marks the first day of retirement from business of Fred L. McClellan, who for the last 35 years has been the head of the McClellan Paper Company, and a leading business man in the northwest.

"Retirement means much to this man, who built up a large and successful business on a capital of $75, when he was almost an invalid.

"But it's not an actual retirement," he assured his friends. "Don't thing for a minute I could rest after working for 40 years. I'm just going to do some of the traveling I've wanted to do for some time, and I'm in the best health I've ever enjoyed." He has sold his business.

He celebrated the event last night by being installed as an officer of the Evergreen Club, a club composed of men who have devoted more than 20 years of their life to the interest of music. He was elected Viola.

The business of retiring and letting someone else take the desk he has used for so many years, resulted in a regular housecleaning at his office For the past week Mr. McClellan was busy taking down portraits from the wall and picking up and packing trinkets that had accumulated.

There was an old fashioned cigar cutter which had been on his desk for years, and used by hundreds of visitors. And there was a mounted golf ball—Mr. McClellan is a golf enthusiast. Three rows of pictures that lined the walls had to be taken down.

Mr. McClellan was an invalid when he started his own business 25 years ago. He had worked for a firm for five years, but decided to go into business for himself. All he had was $75, but he had determination. He opened his business in a basement of a store at 20 Third street N. He went out himself and solicited. Business began to thrive. The next few years he moved five times, and then, in 1912, he built his own building at 700 Fourth street S.

"I built up both my health and my business when I started out 35 years ago," Mr. McClellan said. He laughs at the statement of a physician 26 years ago who said Mr. McClellan had only a short time to live.

Mr. McClellan's hobby is golf, but sports of all kinds interest him. One of his most prized possessions is a membership card in the Minneapolis Athletic Club dated 1890. In those days the business men used to gather at the gymnasium located at 243 Nicollet avenue. He was amateur champion of fancy skating for four years, and played polo, baseball and football. Today he still goes to the Athletic Club for his daily workout.

West End Paper Co. Improvements

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., December 7, 1929.—Regarding the improvements at the plant of the West End Paper Company it was incorrectly stated in a recent issue of the PAPER TRADE JOURNAL that the belt drives in the plant were being replaced by electric turbine drives. The Westinghouse Electric and Manufacturing Company advises that the item should have read that the local firm has purchased two Westinghouse sectional paper machine drives with carbon pile section regulators for use on the paper machines.

STOP THOSE COMPLAINTS

*Manufactured under license from the Centrifugal Engineering and Patents Corporation, owners of the Erkensator Patents.

Everybody, from machine tender to customer, complains about dirty paper. You can stop those complaints and add to the net profits of your mill by making paper that is free from impurities—by passing your stock through Bird Centrifiners.

Bird Centrifiners* purify paper machine stuff by whirling out of it, by means of centrifugal force, all particles of dirt, both heavy and light. The result is more profitable paper making.

Write for our bulletin which tells the whole story.

BIRD MACHINE COMPANY
SOUTH WALPOLE
MASSACHUSETTS

NOW YOU CAN MAKE PAPER THAT IS REALLY CLEAN . . .
USE BIRD CENTRIFINERS

3528

News Print Price Situation Still Involved

While Canadian Mills Continue to Uphold New Rate of $60 Per Ton, Round Table Discussions Are Still Being Held With American Newspaper Publishers—News Print Manufacturers Anxious to Show Action Was Forced by Economic Considerations

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, QUE., December 16, 1929.—The only further developments in the situation regarding the price of news print is that the various other news print manufacturers here appear to be supporting the Canadian Power and Paper Company in making the new rate $60 per ton; and that the representative heads of the various concerns have approached the American Newspaper Publishers Association in an amicable spirit, with the result that a round table talk on the whole situation has taken place in New York. The manufacturers are very anxious to show that they were not acting in an arbitrary manner in the matter of price, but that the action they have taken is one forced upon them by economic considerations looking to the safeguarding of the future interests both of the mills and of the publishers. There seems little doubt that unless the industry is put on a stabilized basis, as it would be under the new contract terms, a crisis will result that will close up the weaker concerns and bring about drastic alterations in regard to future supplies that might react very unfavorably on the publishers and also on the producers, who would find governmental restrictions severely overhauled.

Incidentally, it has now become known that the European news print manufacturing group known as "Ticon", will meet the Canadian and American manufacturers in Quebec during February next. The association reminded its members that in a bulletin issued some time ago, it had reported on efforts of North American news print manufacturers to negotiate with European manufacturers to bring about stabilization of world markets by organizing an international bureau of statistics, the purpose of which "we interpret to be to induce the European manufacturers to increase their price in the United States markets or abandon it altogether."

The "Financial Post" says in regard to the above: "Inquiry here does not confirm or deny the report. Those usually close to the newsprint situation are keeping quiet until the controversy over prices simmers down. After that some announcement may be forthcoming as to the proposed Quebec meeting."

Fraser Companies Defer Dividend

The following letter, under date of December 9, has been addressed by Archibald Fraser, president, to shareholders of Fraser Companies.

"The very large expansion in our paper manufacturing capacity, together with the construction of the new 45,000 ton bleached sulphite mill at Athol, have greatly increased our working capital requirements. With a view to maintaining as strong a working capital position as possible, your directors have decided to defer the payment of dividends on your common shares until the full benefit of the construction program, now about completed, is realized." The last payment of 25 cents quarterly was paid on Oct 1 and the next would have been due Jan. 2. The annual rate of $1.00 per year has been in force since 1928, when the stock was changed to the no par value class, the basis of exchange being three new for one old. New stock was issued that year at $50 per share."

Novel Paper Boat Built

Word of the launching of the twin-screw steamer *Markland*, for the use of the Mersey Paper Company's Mills, in Nova Scotia has been received here. The vessel was designed by Lambert & German, local naval architects. The Montreal engineers collaborated with C. H. L. Jones, president of the Mersey Shipping Company; J. V. Angus, representing the Mersey Shipping Company, owners of the vessel, and the technical staff of the builders, Earle's Shipbuilding and Engineering Company; and the vessel is of novel design being specially built for the economical and safe stowage and carriage of paper for news print.

To meet the severe weather she is likely to experience special precautions have been made against damage by frost and the holds are specially coiled with special steel sparring, faced with wood on all surfaces likely to come in contact with the paper. At the ends of the vessel special steel construction has been made to give vertical and horizontal surfaces for easy stowage and carriage of paper. Electric lighting is fitted throughout. Installed with triple expansion engines of 2,000 i.h.r., there are three boilers fitted for burning oil on the Wallsend-Howden system or coal with Howden's forced draught system.

This is the first vessel of the owners who have huge paper mills in Nova Scotia and it was launched before a number of people interested in the success of the company's venture. Captain Mitchell, the Markland's first master, was at the ceremony of the launching and expressed himself as confident of the strength and fitness of the vessel to navigate through the fogs and frosts of Nova Scotian coasts.

C. P. and P. Association Meeting

The schedule for the 17th annual meeting of the Canadian Pulp and Paper Association has now been arranged. The meeting will be held in Montreal in the last week in January. The program will include, as customary, reports from the several sections, the financial statement for the year. a review of the work of the Institute, and the election of officers.

The technical section will hold a two days' meeting on January 29 and 30, with morning and afternoon sessions. This year's program will centre on the topic. "Manufacturing Methods in Pulp Mills." The first day will be devoted to mechanical pulp and the second day to sulphite pulp.

On January 27 and 28, the Woodlands Section will hold its annual meeting. Only members of the section and other representatives of the woods department of the member companies will attend the meetings.

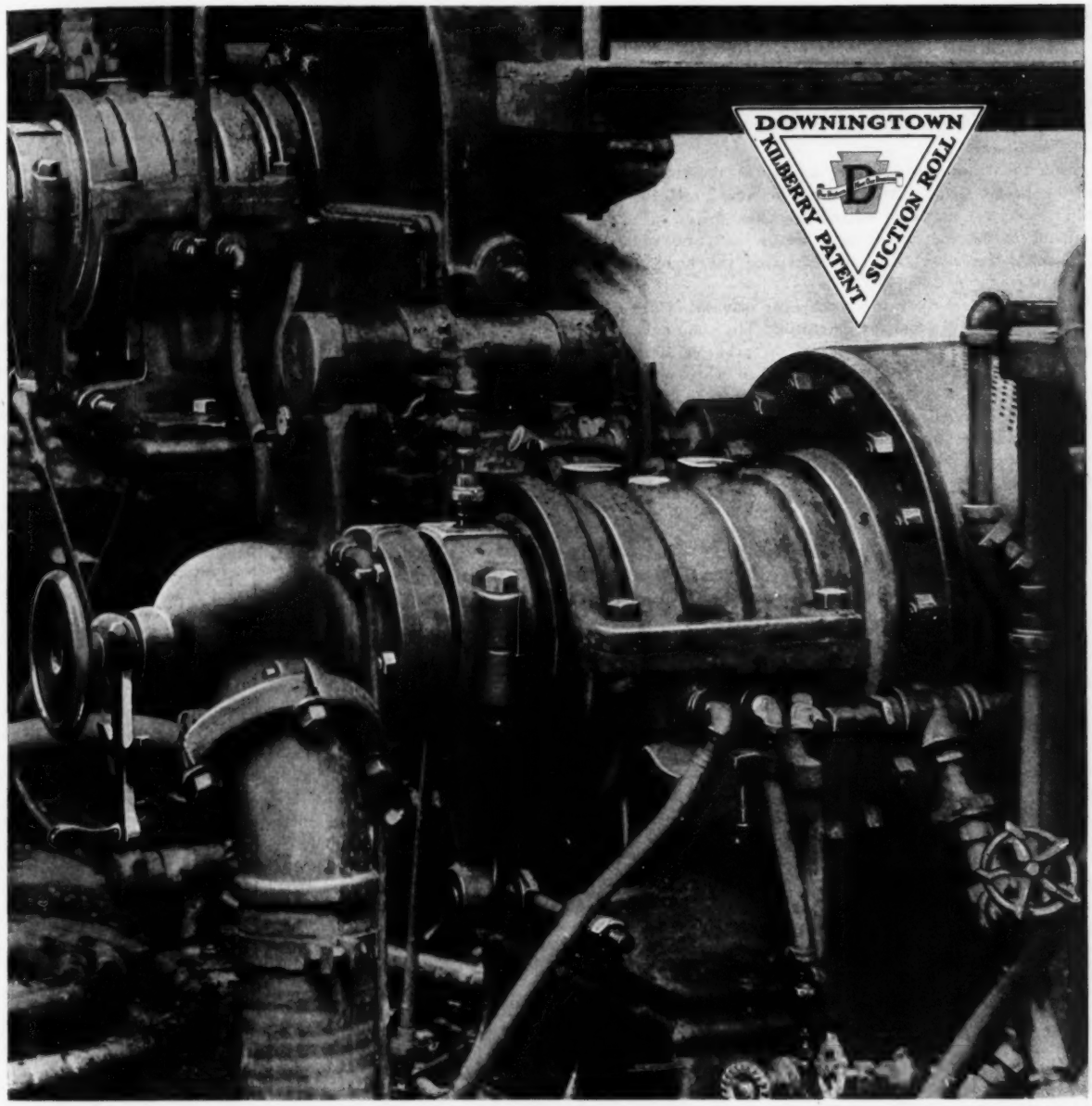
The usual arrangements are being made for the meetings of trade sections.

As in former years, the annual luncheon and the annual dinner will be held on the last day of the meeting—namely, January 31.

It is anticipated that the attendance at the meeting this year will be large. There are a number of important topics to be discussed and the ensuing discussion should bring forth worth while information.

Over Production in Lumber Trade

Arthur H. Campbell, president of the Montreal Lumber Association, speaking at the annual meeting of that body in Montreal, said over production and the lumber business would appear to be synonymous terms. It is believed by many individuals, he continued, that the regulation of production is a sure cure for all our evils. Unfortunately any regulation is made difficult by reason of the fact that, unlike many commodities, lumber in Canada is subject to competition from the four corners of the world. The low water freight rates via the Panama Canal make easy the shipment of Pacific Coast lumber to the markets in eastern and central Canada and to the United States. There have appeared on this continent this year cargoes of lumber from the Baltic. Attempts also have been made to introduce Russian white wood which resembles our Canadian spruce and we have grown accustomed to see our



Continental Paper & Bag Corp. uses Two Kilberry Suction Rolls

These rolls are 148″ face, the couch being 25″ diameter and the press 22″ diameter. They have been in operation since last summer in this mill at Rumford, Maine, and are giving excellent satisfaction. This is only one of the many mills who have experienced the design and operating superiorities of the Downingtown Patented Roll. Write us for a list of users and literature about the roll..

DOWNINGTOWN MFG. CO.
DOWNINGTOWN, PA., U. S. A.

local markets demoralized by imports from the United States at crucial periods.

In eastern Canada, particularly in Ontario, Quebec and New Brunswick, the cost of production of soft wood lumber is increasing rapidly, the source of supply is getting farther and farther away from the mills and the logs taken out are getting smaller each year.

During the latter part of the year many shipments of lumber from the Pacific Coast were marketed in New York, Boston and also in eastern Canada at exceedingly low prices. due to the falling off in the western demand because of unfavorable crops and possibly the uncertainity of marketing the huge stocks of grain in store.

On the other hand the soft wood lumber manufacturing industry in Eastern Canada is gradually decreasing. The pulp and paper industry is absorbing more and more of the available spruce which brings greater returns for that purpose than when manufactured into lumber. Within a very few years I predict all the spruce available will be required for the manufacture of paper.

The consumption of lumber in Canada has been satisfactory, particularly during the first part of the year.

He thought the lumbermen should carry on aggressive advertising, and announced that the Canadian Lumber Dealers' Association, appreciating this fact, are arranging for an advertising campaign for the purpose of impressing the public with the many advantages which lumber has over substitutes.

The same note in regard to over production as characterized the remarks of the president of the Lumber Association, was struck by Albert J. Smith, retiring president of the Montreal Wholesale Lumber Dealers Association at the annual meeting of that organization. He added that only by closer co-operation could individual interests be subordinated to the general ones of the trade in view of bettering the present situation. For example, production in mills must be regulated without raising the cost of products in spite of the fact that timber limits are constantly receding, and with them the source of supply.

"As for the wholesalers, I have no hesitation in saying that their intervention will be a necessity for a long time to come. Their close relations with the manufacturers, their intimate knowledge of the supply market and its needs and requirements permit them to fill at small cost the office of intermediary between the manufacturer and the retailer. Theirs alone is the task of unifying their efforts to better safeguard the excellent market now existing in Eastern Canada."

First Minton Vacuum Dryer for Pacific Coast

The Olympic Forest Products Company of Seattle, Wash., have secured a license to own and operate a Minton Vacuum Dryer for the first unit of its new 500 ton mill to be erected at Port Angeles, Wash.

The Minton Vacuum Dryer will dry 170 tons per day of bleached sulphite pulp down to 104 per cent air dry and will be built in the shops of Rice, Barton & Fales, Inc., of Worcester, Mass., who are also furnishing the wet end of the machine as well as other auxiliary equipment. The Vacuum Dryer consists of 40 driers, each having a diameter of 60 inches and a face of 152 inches.

Rapid progress by the Minton Vacuum Dryer Corporation, Greenwich, Conn., is now being made as the above order preceded by a few weeks the starting up of the Minton Vacuum Dryer at the LaTuque, P. Q., mill of the Brown Company. This Vacuum Dryer, in four days after starting up, reached its designed capacity of 100 tons per day of Kraft pulp. The Vacuum Dryer has 25 driers, each having a diameter of 60 inches and a face of 144 inches and runs at 100 f.p.m. The maximum steam pressure in the main header of the dryer section is 5 pounds. It is expected shortly that the Brown Company will prepare for the second installation of a Minton Vacuum Dryer at its LeToque, P. Q., plant.

Paper Production Gains in October

According to identical mill reports to the American Paper and Pulp Association from members and cooperating organizations, paper production in October registered an increase of 12 per cent as compared with September, 1929, and an increase of 7 per cent over October 1928. Paper production for ten months ending October, 1929, showed an increase of 7 per cent over the same period of 1928.

The October production for all individual grades, excepting news print, felts and building, bag and wrapping papers, registered an increase over October, 1928, output. Uncoated book paper production showed an increase of 20 per cent over October, 1928, writing 13 per cent, hanging 11 per cent, tissue 10 per cent and paperboard 9 per cent. Production of wrapping paper decreased in October, 1929, as compared with October, 1928, by 10 per cent, bag paper 5 per cent, felts and building paper 2 per cent and news print less than 1 per cent.

Shipments of all grades in October, 1929, excepting felts and building, bag and wrapping papers, increased over October, 1928, the total shipments being 7 per cent above the total of last year.

Paper board, wrapping, bag, tissue and hanging papers, registered decreases in inventory at the end of October, 1929, as compared with September, 1929. As compared with October, 1928, paper board, felts and building and hanging papers, showed increases in inventory. The total stocks on hand for all grades was 2 per cent below September, 1929, and 2 per cent below that of October, 1928.

Identical pulp mill reports for October, 1929, indicated that the total production of all grades of pulp was 2 per cent greater than October, 1928.

During October, 1929, 8 per cent more bleached sulphite pulp, 8 per cent more soda pulp and 3 per cent more kraft pulp was consumed by reporting mills than in October, 1928. The total shipments to outside markets of all grades of pulp in October, 1929, were 9 per cent higher than the total for October, 1928.

All grades of pulp, excepting news grade sulphite, bleached sulphite and Mitscherlich sulphite, showed decreases in inventory at the end of October as compared with the end of September, 1929. As compared with October, 1928, all grades excepting bleached sulphite, easy bleaching sulphite, and kraft pulp, registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF OCTOBER, 1929

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	122,009	122,040	26,573
Book (uncoated)	101,293	100,387	40,649
Paper board	238,738	242,310	59,815
Wrapping	50,774	53,362	47,075
Bag	15,977	15,977	5,053
Writing	33,464	32,687	39,064
Tissue	14,693	14,997	7,500
Hanging	6,991	7,691	4,636
Felts and building	6,360	6,287	2,762
Other grades	29,598	29,405	16,572
Total—All grades	619,897	625,143	249,699

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF OCTOBER, 1929

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	79,900	91,761	3,529	57,695
Sulphite news grade	42,077	37,221	4,612	6,422
Sulphite bleached	28,813	25,922	2,702	3,068
Sulphite easy bleaching	3,213	2,936	328	776
Sulphite Mitscherlich	7,618	5,898	1,447	956
Sulphate pulp	31,167	26,999	4,596	5,589
Soda pulp	25,443	16,753	9,142	3,928
Pulp—Other grades	62	.....	34	130
Total—All grades	218,293	207,490	26,390	78,564

Appointed Resistall Agent

BALTIMORE, Md., December 9, 1929.—J. Francis Hock & Co. of Baltimore have been appointed an agent for Resistall Index Bristol, one of the water oil and abrasion resistant papers recently announced by the L. L. Brown Paper Company of Adams, Mass.

You profit from felts that are CONTINUOUSLY CLEAN

Whether it's greater production you need, or higher quality—or both—you need felts that are continuously clean. You can have clean felts, all the time, with Vickery Felt Conditioners.

Try a Vickery Felt Conditioner on one of your own felts, at our expense.

BIRD MACHINERY

BIRD MACHINE COMPANY

SOUTH WALPOLE ... MASSACHUSETTS

3592

Paper Demand More Active In Philadelphia

Distributors of Wrapping Paper and Fine Paper Specialties Experience Greater Activity Than of Late—Continued Orders of This Class Anticipated Until End of Holiday Buying Season—Fine Paper Mills Operating at Normal Rate of Production

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 16, 1929.—There was a more lively demand for general lines of wrapping paper and specialties in the fine paper. The trade looks forward to continued orders of this character for the next fortnight or so and until the holiday buying season is at an end for the current year. While the larger fine paper mills are reported operating at the usual rate of production, manufacturers of wrapping paper and coarser grades have been quiet except where a well developed and steady business has been built up in specialties that have little competition.

An announcement has been sent to the entire eastern district by the Piqua Strawboard Company, of Piqua, Ohio, through the Philadelphia office, stating that prices on manila lined strawboard products will be reduced this month, effective last week for all the eastern states supplied through the local branch. The reduction was fixed at $10 per ton on manila lined boards. Single manila lined now is quoted at $70 per ton while those in colors in the same class are priced at from $10 to $25 per ton higher. The price reduction does not affect the plain grades of strawboard, it is stated in the announcement. The plainer strawboard products are still valued at the prices which have held throughout the past six months.

E. B. Nichols Joins Brown Instrument Company

The Brown Instrument Company, Philadelphia, has appointed as its chief engineer E. B. Nichols, well known for his previous connections, and his activities in the A. S. M. E. Mr. Nichols, who is an M. E. graduate of North Carolina State College, was at one time chief engineer of the Pfaudler Company, of Rochester, N. Y., subsequently holding the position of chief engineer of the Victor Talking Machine Company, Camden, N. J. Later he became associated with the Bell Telephone Laboratories, which connection he severed to join the Brown Instrument Company organization. Mr. Nichols will act in an administrative capacity, supervising the work of the engineering staff. The past achievements of Mr. Nichols, his broad executive experience and ability in handling men and materials, equip him particularly well for the varied and difficult problems presented in his new work.

Fancy Papers, Inc., Producing Box Covers and Tissues

Having purchased its own plant and installed equipment for the manufacture of fancy box cover and tissue linings for envelopes, Fancy Papers, Inc., 5356 Chew street, in the Germantown district, is now producing a wide range of selections of paper adapted for papeterie manufacturers, envelope producers, and the manufacturing stationery industry and engraving trade. Fancy Papers, Inc., of which Frank Swift and J. Y. Krout are partners, has a complete printing, sheathing and embossing equipment for the production of high grade papers of this class. J. Y. Krout, of the firm, has been engaged in the paper manufacturing industry for many years and was an associate of the R. R. Heywood Company, New York, and in recent years was with Pinco Papers, Inc., of Camden, N. J., on the sales staff.

Goldman Paper & Stock Co. Expand

Since acquiring the larger quarters at 316 North 3rd street, the Goldman Paper and Stock Company, has considerably increased its paper stocks and its converting department. The firm is now carrying a larger quantity of paper for printers and wrapping papers and specialty houses and is storing an average of 3,000 tons of paper in the enlarged warehouses, purchased last year. The new home is a 40 story structure 60 feet by 300 feet. The company specializes in job lots of paper. It has installed several new units in its converting division and is now equipped with a complete plant for cutting, sheeting, winding and roll converting services to the trade. The roll department is now equipped to manufacture any size roll from the smallest in diameter to the largest. The entire second floor is devoted to the converting department and has been provided with all modern units for this purpose of roll conversion cutting and sheeting of job mill lots in which the concern specializes.

Warren Paper Mfg. Co. Opens Local Office

A local office and mill representative has been established in the Philadelphia trade by the Warren Manufacturing Company, 342 Madison Avenue, New York, with mills in Warren, Hughesville and Milford, N. J., and in Riegelsville, Pa. The Quaker City offices are located on the second floor of the Jefferson Building, 1015 Chestnut street, where George F. Swartz is manager. The Warren Manufacturing Company produces glassine, wax, jute pattern papers, and other specialties of heavier grades which are distributed here by the local mill representative.

Dill & Collins to Exhibit In South America

Among the thirty Philadelphia firms that have already agreed to send exhibits over South America in January next, as part of the traveling airplane exhibition of Philadelphia-made goods being arranged by the Foreign Trade Committee of the Philadelphia Chamber of Commerce, is the fine paper manufacturing concern of Dill & Collins Company, with mills at Richmond and Tioga streets. There are 66 other firms which have taken option on space in the exhibit to be the largest ever made in South America of Philadelphia-made products. The exhibit will travel by airplane from city to city in the countries of South America for the purpose of making known the products produced in the Quaker City. The Dill & Collins Company is the direct successor to the oldest paper mill in America and the first to be established in the country and operated in Philadelphia as the David Rittenhouse Paper Mill, dating back to Colonial times.

Sam Silverman Representing S. Walter Inc., Up-State

Sam Silverman, of the Philadelphia headquarters of S. Walter, Inc., 145 North 5th street, is representing the firm in the newly acquired distributive territory covered by the recently opened branch, the Lehigh Valley Paper Division of S. Walter, Inc., at Allentown, Pa. The appointment of Mr. Silverman to the Lehigh Valley Division is temporary, pending the selection of a manager to look after the new quarters and distribution center for the Lehigh Valley. The Lehigh Valley Division will feature fine papers as well as wrapping papers and specialties.

Aged Envelope Broker Killed

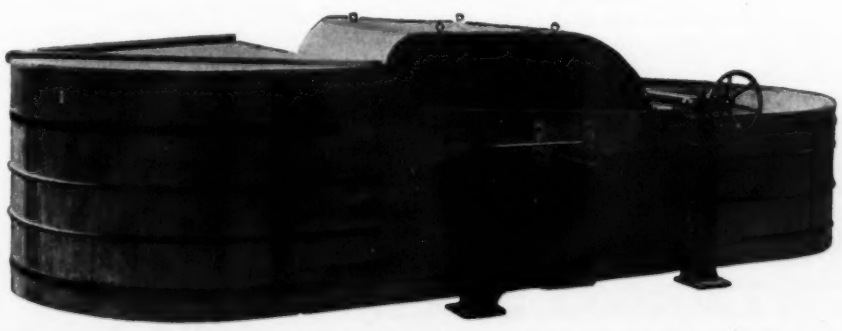
In the tragic death of D. L. Taylor, octogenarian envelope broker, the Quaker City loses one of the pioneers in this branch of the industry who has been identified with the trade ever since boyhood days. Mr. Taylor, who in his 84th year at the time of the accident, was killed while crossing Broad street at Vine street last Friday. He was struck by a New York bus as he attempted to cross the street and was instantly killed. For the past fifteen years he was connected with the Whiting Patterson Company on its staff of envelope salesmen, where he was employed at the time of his death. Previous to joining the Whiting Patterson Company he was engaged in the envelope brokerage business on his own account and had a wide acquaintance among the consumers and the trade who remained his customers throughout his

An Emerson High Density, High Speed Beater in the mill of a nationally known maker of bonds and cover stock. Built to handle 1800 lbs., a 2500 lb. load was running in the beater when the picture was taken.

3 old style beaters, each handling 1200 lbs. at 3% density, took 180 H.P. 3 Emerson High Density, High Speed Beaters shown above, each handling 1850 lbs. of the same stock at 7% density, use 170 H.P., *effect a 50% power saving over the old beater room.*

Let Emerson modernize your beater room

Emerson engineering and beater design have kept abreast of papermaking . . . High density, high speed beaters reduce beating time, save power, handle heavy loads without trouble . . . Emerson beaters built to meet *specific* mill requirements lower beater room costs, maintain quality and uniformity, give steady, dependable service . . . New mills are completely equipping their beater rooms with modern Emerson beaters, others are installing them to replace obsolete equipment, bringing their plants up to date. . . . Ask us to show what they can do for you.



10 low cost Emerson High Density, High Speed Beaters, similar to the one above, are operating in a mill making high grade papers. Name on request.

The Emerson Manufacturing Company

Lawrence • • • Massachusetts

Division of John W. Bolton & Sons, Inc.

3477

long career with the Philadelphia industry. He became connected with the trade while a boy in his teens.

Joseph H. Mann Binns Passes

Joseph H. Mann Binns, former president of the William Mann Company and at one time the head of the William Mann Paper Mills at Lambertville, N. J. died at his home in Haverford, near here last week, from the effects of pneumonia. He was 43 years of age and had been retired from the Mann Company four years ago. He was the son of Mary Mann Binns, daughter of the founder of the William Mann Company, manufacturers of stationery and founder of the Mann Paper Mills at Lambertville, where was manufactured the Shen King papers used by the trade extensively in the past years as copy paper. He leaves a widow and daughter.

L. Resnick & Son In New Home

L. Resnick & Son, have acquired larger and more central city quarters in the building at 231-235 South 3rd street, where the business has been expanded to meet growing needs of the concern. L. Resnick & Son was formerly located at 535 South 60th street, where a branch sales office is still maintained, while the executive offices and warehouse has been assembled in the new location. The firm deals in wrapping paper, bags, twines and paper specialties, in which the concern has been conducting a distribution of seventeen years extension.

Hammermill Paper Co. Revisions

An announcement has been sent to the trade and the consumers by the Hammermill Paper Company, of Erie, Pa., of its revisions of the Working Kit of Hammermill Bonds. These revisions apply to the letter bonds and forms and include the list of fifteen Hammermill Bonds in white and various colors. In the Kit there is much new information on the designing of letter heads and business forms accompanied by specimens adopted by the Division of Simplified Practice, U. S. Department of Commerce, and this is accompanied by a folder of information on Hammermill Bond Envelopes to match.

Bentley Paper Co. Adds to Products

Having been established as an exclusive distributor of the printing paper manufactured by the Louis DeJonge Company, of New York, the Bentley Paper Company has taken on a new line of coated papers produced by the Allied Paper Company, of Kalamazoo, Mich. The firm, of which R. Peel Bentley is head, will distribute the Velour folding coated papers of the Allied Company. The Velour folding coat is used for catalogs and mail purposes by the printing and publishing trades and is an excellent grade of coated paper of durability and appearance and takes a fine illustration. It will be sold by the Bentley company in all sizes and weights and is produced in white and ivory.

Chas. Beck Paper Co. Issues Box Paper Book

With a comprehensive assortment of 567 lines of boxmakers papers, the Charles Beck Paper Company, 609 Chestnut street, has compiled in its new book devoted to this branch of its business. The new sample book represents the Assortment No. 406 and has been mailed to all the paper box manufacturers in the country. The line covers all grades and types of box makers supplies in paper and comprises the firm's own brands. The Paper Box Makers Supply Department of the Beck Paper Company is one of the oldest in the United States originating here more than threescore years ago at the time of the founding of the business. It is under the management of Robert S. Rudolph.

Carthage Machine Co. Sells Interest

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N.Y. December 16, 1929.—The Carthage Machine Company has sold its interests in the Carthage Machine Company of Canada Ltd., Belleville, Ontario to R. J. Graham of Belleville.

A.K. Hinds has also sold his interest and resigned as president and director of the Canadian company.

To Work on Conklingville Dam Through Winter

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., December 16, 1929.—Work will be carried on throughout the coming winter in the construction of the huge dam at Conklingville being financed by prominent paper manufacturing firms as well as the power plant being erected by the New York Power and Light Company adjoining the dam. This means that the Conklingville Reservoir will be in shape to be filled with next spring's freshets and that the power plant will be in use at about the same time. Workmen are busy these days in preparing to combat the rigors of a northern winter.

The Hudson River Regulating Board is carrying out this huge project in a way most satisfactory not only to those financially interested but likewise to the engineering world at large which has been vitally interested in the solution of the many problems that naturally present themselves in such a project. Thousands of tourists have visited the site of the huge reservoir during the past summer for the purpose of looking over the territory which in the coming years will play a great part in regulating the flow of the Hudson River besides providing a year round power for the paper mills and the resultant increase in the earnings of thousands who previously have been forced to take temporary lay-offs on account of low water conditions.

Comparatively few persons realize the stupendous work that is now under way a few miles from Hadley and extending for thirty miles or more through the valleys of the Adirondacks. Everything now points to the completion of the project early next spring. At the present time the dam itself is about 75 per cent completed, the approach channels have been finished, the spillway is about one-half completed, and the work is progressing up to specifications. No attempt will be made next spring to fill the reservoir to its utmost capacity, which is 224,000,000,000 gallons of water. The reservoir will be filled partially to a point which will bring the water line to about ten feet below the ultimate crest line. Before starting the project an exhaustive study of the flow records of the past few years was made so that nothing has been left to guesswork as to just how long it will take to fill the reservoir under ordinary conditions or the amount of water that will be required to keep the flow of the Hudson at a volume sufficient to meet demands of paper mills along the banks.

When completed the dam and the reservoir will represent an expenditure of $12,000,000, but its value in years to come to industries along the Hudson River cannot be estimated. There will no longer be the possibility of shutdowns similar to a few weeks ago at Corinth, when the waters of the Hudson became so low that it was impossible to operate certain mills of the International Paper Company. A steady flow of water throughout the year will eliminate all such occurrences in the future while the region itself will have the advantage of offering prospective industries using water power a never-varying flow. Edward H. Sargent, of Albany, is chief engineer of this huge development and assisting him as members of the Hudson River Regulating District Board are David J. Fitzgerald, of Glens Falls, Henry M. Sage, and W. Ellison Mills, of Gloversville.

Estate of Paul N. Myers

ST. PAUL, Minn., December 16, 1929.—The estate of Paul N. Myers, president of the Waldorf Paper Co., whose body was recovered from the Mississippi river early this month, was estimated at more than $110,000 in a will filed last week in probate court.

Personal property was stated to be more than $100,000 and real property in excess of $10,000, all of which was left to the widow, Mrs. Reine Myers, 7 Heather place.

Mrs. Myers and the Merchants Trust Company were named executors of the estate and the trust company was appointed by Judge Howard Wheeler as special administrator.

MERSEY PAPER COMPANY LIMITED

LIVERPOOL, N.S.

NOVA SCOTIA'S FIRST NEWSPRINT MILL

STARTS OPERATION EQUIPPED WITH THE

Briner Economizers

Licensed Under Patents of E.A. Briner and John E. Alexander

Of timely interest to the entire paper industry is the opening of the Mersey Paper Company's newsprint mill at Liverpool—one of the largest and finest in Canada. Equipped as it is for the most modern and efficient methods in every branch of operation, it is perhaps natural that Ross apparatus, including the Briner Economizer has been specified for its heating and ventilating.

The installation of Ross Systems indicates the high standard of production and operating efficiency that is to be maintained in this fine new mill. In line with other prominent successful mills throughout the industry, the Mersey Paper Company, Limited, will secure every advantage and economy that results from scientific study of its heating, ventilating and drying problems. We are justly proud of the selection of Ross Systems for this important new development.

The advantages secured and the economies effected by operation of Briner Economizers are not confined to only the new mills or the largest mills. Nearly all mills regardless of size or design can similarly profit from the substantial reduction in steam costs that the Briner Economizer assures. Our engineering department is at your service.

J. O. ROSS ENGINEERING CORPORATION

208 W. Washington Street, CHICAGO — Main Office—122 East 42nd Street, NEW YORK — 519 American Bank Bldg., PORTLAND, ORE.

ROSS ENGINEERING OF CANADA, LIMITED

NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS

HEATING—VENTILATING—DRYING

Ontario Paper Mills Are Moderately Active

While the Demand for Standard Grades of Paper for Immediate Requirements Is Keeping Canadian Manufacturers Fairly Busy, Orders for Tonnage for Future Delivery Are Below Normal—Board Mills Continue to Operate on Shorter Time Basis

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., December 16, 1929.—With inventory taking season at hand activity in wholesale paper circles in the Toronto district is pretty much confined to hand to mouth buying and the trade does not reckon on any marked resumption of buying until the new year gets under way. In nearly all branches of the paper trade small orders for supplies prevail and while these are totalling up fairly well from week to week they have not the appearance of brisk business. As a matter of fact, however, the wholesale paper trade appears to have come through the quiet season so far remarkably well. Despite adverse business conditions created largely by the recent unsettlement in trade following the falling stock markets several of the Toronto paper merchants report quite satisfactory sales for November, with December shaping up fairly well. While the trade as a whole, in common with all commercial lines, was undoubtedly affected by the near panic in business affairs throughout the province during the past month or so, the results as far as the paper wholesalers are concerned, at least, do not appear to have been nearly so serious as at first reported. While paper sales experienced a falling off not a few of the firms are expressing surprise that they weathered the gale as well as they did. A few concerns in Toronto say that their sales were not materially affected and that the year is going to end with a normal and satisfying record of business. Both in the fine and coarse paper sections there are signs of a steadying down in the market and while small lot buying will continue to the end of the year there is every indication that paper consumers will be in the market again with substantial orders early in January. In the meantime the wholesale paper market may be said to be in a healthy condition with foundations well laid for what is believed will be really good business for the remaining winter months and the coming spring season.

Most branches of the paper manufacturing industry are showing moderate degrees of activity and while current orders for stock are keeping the mills fairly busy it cannot be said that any of the mills have orders on their books for any length of time ahead. This is usual at this time of the year but the condition appears to be more marked this year than last. The placing of orders for tonnage for delivery early in the coming year is not as easy as it was at this time last year and while the mills are confident that the business is going to come, they should have a lot of it booked up by now. Particularly is this so in the matter of book paper. Mills making book and other fine paper lines are quite busy but none of them appear to be very far ahead of the machines. From the printer to the paper jobber and consumer no one is putting in any stocks of size and while the output of the mills is being readily absorbed there would be an easier feeling if a buying movement looking toward future requirements were to set in. It is not looked for until some time in January. Coating mills are only moderately busy although demand for coated stock has been keeping up well during the past couple or three months. There is a good sale for glassine, grease proof and waxing papers under continually developing uses for these lines and mills manufacturing light weight papers in the way of tissues, toilets and specialties report a satisfactory volume of business. There never has been a better Christmas trade in crepe paper and tissue specialties than this year and both mills and distributors are well satisfied with the results. The board mills continue to operate on the recently arranged shorter time basis and are fairly active, although slightly less so than was the case a year ago. However, their product is being readily absorbed by the paper box trade which is running light just now, but which has put in quite a good year, with volume of sales about equal to those of last season. In this connection papeterie manufacturing concerns say that they are doing a nice business on repeat orders for Christmas stuff. The paper converting trade generally, however, cannot be said to be busy. Envelope manufacturers are only moderately busy and demand for manufactured stationery and allied lines used in business houses are in lighter demand than should be the case at this season of the year.

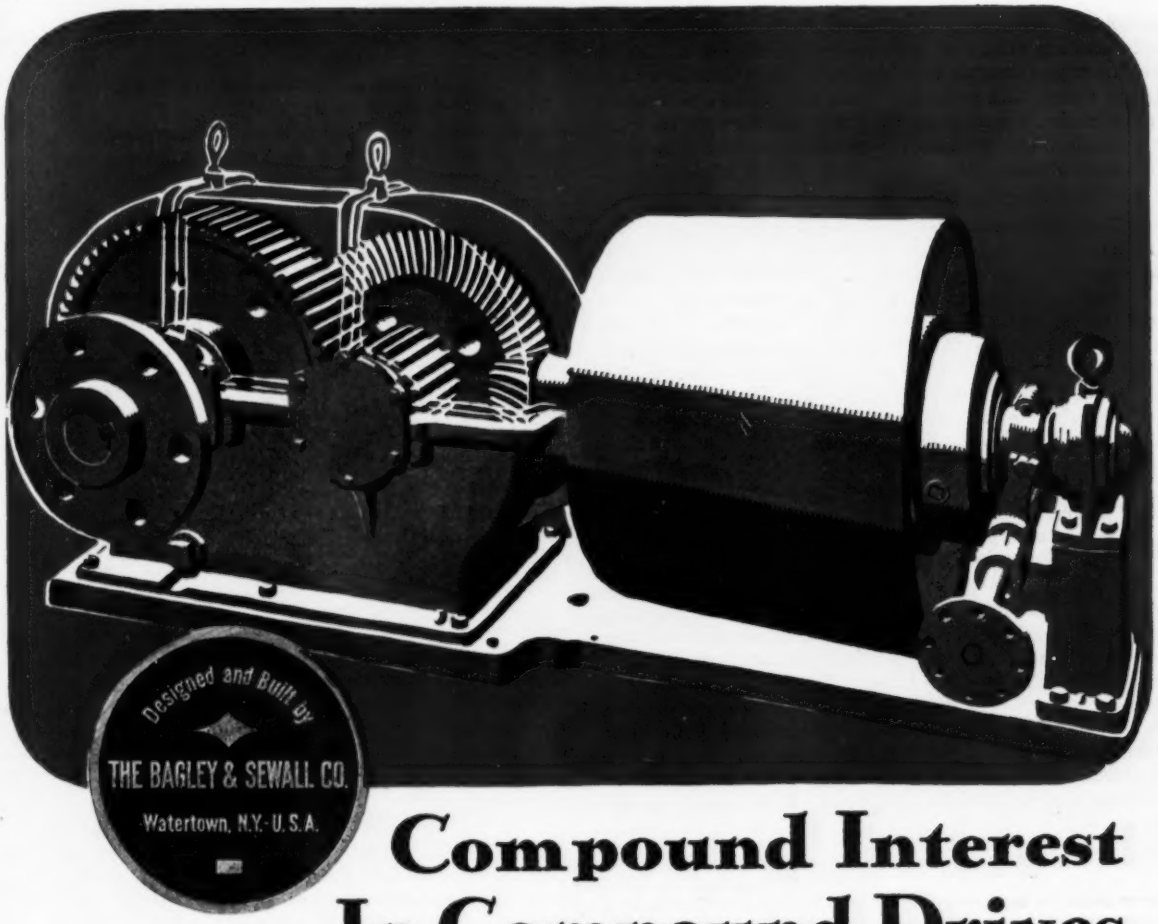
Canadian producers of ground wood pulp, for export to the United States, have been greatly favored by adverse weather conditions across the line during the past couple of months. The pulp mills in the States are obliged to depend for a water supply upon streams that are prone to go dry, if there is not continued and copious rain. Such a drought has been experienced this fall, with the consequence that many pulp mills were obliged to suspend operations and many paper mills were constrained to look toward Canada for their supply of pulp. The further consequence of this too dry spell has been that ground wood pulp has all been requisitioned from the Canadian mills, and they are not only minus any supplies to fill present orders but are oversold as far ahead as the end of March next. Also prices have gone higher. Before the drought hit the mills in the States ground wood was sold by the Canadian mills at about $25.00 a ton. The price went up to $30.00, $32.00, $35.00, $36.50, and now to $40.00, delivered with no certainty as to delivery. If there should be heavy rains in those States where ground wood is produced, the home supply would begin again to go to the paper mills in the States, and the price would presently recede to its more normal level. But it is not the rainy season across the line and the probability is that the market for ground wood pulp will remain more or less inflated until the spring thaws come along and provide more water for those rivers upon which ground wood pulp mills are located. In the meantime, United States mills are trying to ameliorate the situation by placing orders in Sweden and Norway, and sending urgent requests to Canadian mills for dates for delivery of orders they would like to place.

Heavy Cut by Ontario Paper Co.

The Ontario Paper Company shipped 118,000 cords of pulpwood from Franquelin and Shelter Bay, Que., to its plant at Thorold, Ont., during the past season. This is the biggest shipment ever made by the company since it began operating on the North Shore of the St. Lawrence. For this winter its operations will be rather small, being only 40,000 cords at each plant. This cut will represent only about fifty per cent of last year's production. All the wood is taken from jobbers coming from the South Shore division in the Matane section.

New Canadian Twine Co. Incorporated

With the announcement just made of the incorporation of Bowman Twines, Ltd., Canada gains a new manufacturer of twines. The plant formerly owned by the Huron Cordage Company, at Brantford, Ont., has been purchased by the new company. This plant has been augmented by new machinery necessary to make its equipment fully efficient, according to the most modern standards of twine manufacture, and production has already commenced on all grades of sisal twines, marlines, clothes lines, etc. Beniah Bowman is president of the company and Benjamine Thornbar is the general manager. The sales for Bowman Twines, Ltd., will be handled from Toronto by E. H. Wilkinson & Co., Ltd., 19 Melinda street, well known among the paper trade, who have been



Compound Interest In Compound Drives

Bagley & Sewall Compound Spiral Bevel Gear "Slow Motion" Drives pay big interest returns... dividends in more profitable production... freedom from excessive broke... more uniform sheet formation... longer life for rolls, wires and felts. For these are drives that meet every ideal of modern efficiency... pinions, bevel and spur gears precisely cut from solid metal... enclosed oil bath giving full, adequate lubrication... remarkable freedom from vibration and noise... complete easy control through magnetic or multiple disc clutches... and an almost unbelievable compactness that keeps the back aisle open and accessible. In any desired gear ratio, with an assurance of smooth operation that is a revelation.

NEW—*but already endorsed by practical superintendents*

The Bagley & Sewall Co.

Watertown, N.Y.

appointed sole selling agents of the company. The trade mark adopted shows the figure of a bow-man after the old English, or Robin Hood type, standing with bow drawn, framed inside a panel of Gothic design. This trademark would seem to be a particularly fortunate choice, incorporating as it does the name of the company's president, together with a suggestion of the use of twine by the old-time bowman.

Pulpwood Men Buy Burned Over Timber

New Ontario's thousands of acres of partly burned timber may yet be utilized by Canadian pulpwood manufacturers, Provincial Government officials hope, following the successful sale this week of a sizeable quantity of such wood in the Hearst area. Fred Charpentier, a Hearst lumberman, has bought 8,500 cords of this fire-swept wood near the C. N. R. tracks in the Hearst district, it was announced at the Department of Lands and Forests in Toronto this week. Charpentier, who also takes 250 cords of green spruce and balsam in the same area, bid 80 cents a cord for the burnt wood and $1.75 a cord for the green. The sale is deemed of importance because it meant not only the utilization of timberland that was thought almost useless due to forest fires years ago, but also because it would be the means of the employment of Ontario citizens as it will be made into paper in an Ontario mill. "In recent years there has been comparatively little use of burnt-over timber in Ontario," Deputy Minister McCain said. "The Department has been asked to sanction the cutting of this wood for export to the United States but we could not approve that. But now, judging by this sale, Ontario mills are relenting and may find use for this sort of timber. The Department hopes to see more of it used." Between 10,000 and 15,000 cords standing in the township of Kendry, just east of Smoth Rock Falls, home of the big Abitibi Power and Paper Company mills, was sold to R. D. McKay of Cochraine. It is understood that this timber, when cut, will be sold to Abitibi. McKay paid $2.55 a cord for the spruce and balsam, which is considered a good price by the Department.

To Reopen the Nipigon Mill

Improvement in the ground wood pulp market is reflected in a report that the International Paper Company will shortly reopen its ground wood mill at Nipigon, Ont., which has a capacity of 70 tons daily. This is the second ground wood mill which the company have recently reopened; its plant at Saint George, N. B., which had been closed for two years, was brought into production a short time ago. The Nipigon plant, which has six grinders and seven wet machines, was included in purchase of extensive pulp wood limits by the International Paper Company. The mill was constructed and operated originally by a company known as the Nipigon Corporation. Later, it was secured by the Nipigon Fiber Company, of which Noah Timmins was the head, and finally it was taken over by the present owners.

Hinde and Dauch to Increase Prices

The Hinde and Dauch Paper Company, of Canada, head office Toronto, has just announced the regular quarterly dividend for the final period of the fiscal year, which ends on December 31 next. It is at the rate of 25 cents a share. Profits of the company are not expected to be materially higher than was the case last year, owing to the severe competition with which the management has been confronted. Net earnings in 1928 amounted to $773,323, and, after deducting bond interest, depreciation and taxes, there was a balance of $528,504 available for dividends on the common stock, equal to $176 per share on the outstanding common stock. Throughout most of the year the three factories of the company, located in Toronto, Montreal and Trenton, were operating to a high degree of capacity, but the results secured from this work were not as satisfactory as in other years due to the large amount of price-cutting that was in progress. This situation has now been adjusted, and with January 15 next, there will go into effect an advance in the price of fibre board, which is expected to work to the advantage of all companies engaged in the manufacture of corrugated paper products and kindred output, such as fiber shipping boxes and straw paper for corrugated purposes.

Notes and Jottings of the Trade

The common shares of the Port Alfred Pulp and Paper Corporation and the Wayagamack Pulp and Paper Company have been taken off the trading list of the Toronto Stock Exchange. These shares were exchanged for shares in the Canada Power and Paper Corporation, as a result of the recent merger.

Contract has been let by the Robert Martin Corrugated Paper Box Company for a new plant to be erected by the company at Peterborough, Ont., The building will be one story, 300 by 100 feet, brick and concrete construction. The rate payers of the city will be called on in January to vote on a by-law granting the company fixed assessment. The cost of the plant will be $50,000, with another $85,000 to be spent on equipment.

C. Ernest French, of the Toronto office of the Howard Smith Paper Mills, Ltd., has returned from Baltimore, where he was at the sick bedside in Johns Hopkins Hospital, of Mrs. Smith, wife of C. Howard Smith, president of the company. Mrs. Smith is reported to be slowly recovering after a serious illness.

The Fred W. Halls Paper Company, Ltd., Adelaide street West, Toronto, have let the contract for an addition to their shipping room.

The Canadian Government Trade Commissioner in Shanghai reports that there is an increased demand for wood pulp in China and that some sales of Canadian pulp have already been made. He also advises that the paper mills of China should be in a position to place several thousand tons of Canadian pulp during the coming year. In course of time China is destined to become a larger producer of paper and Canada should be able to provide the wood pulp for this market on favorable terms, the Commissioner says.

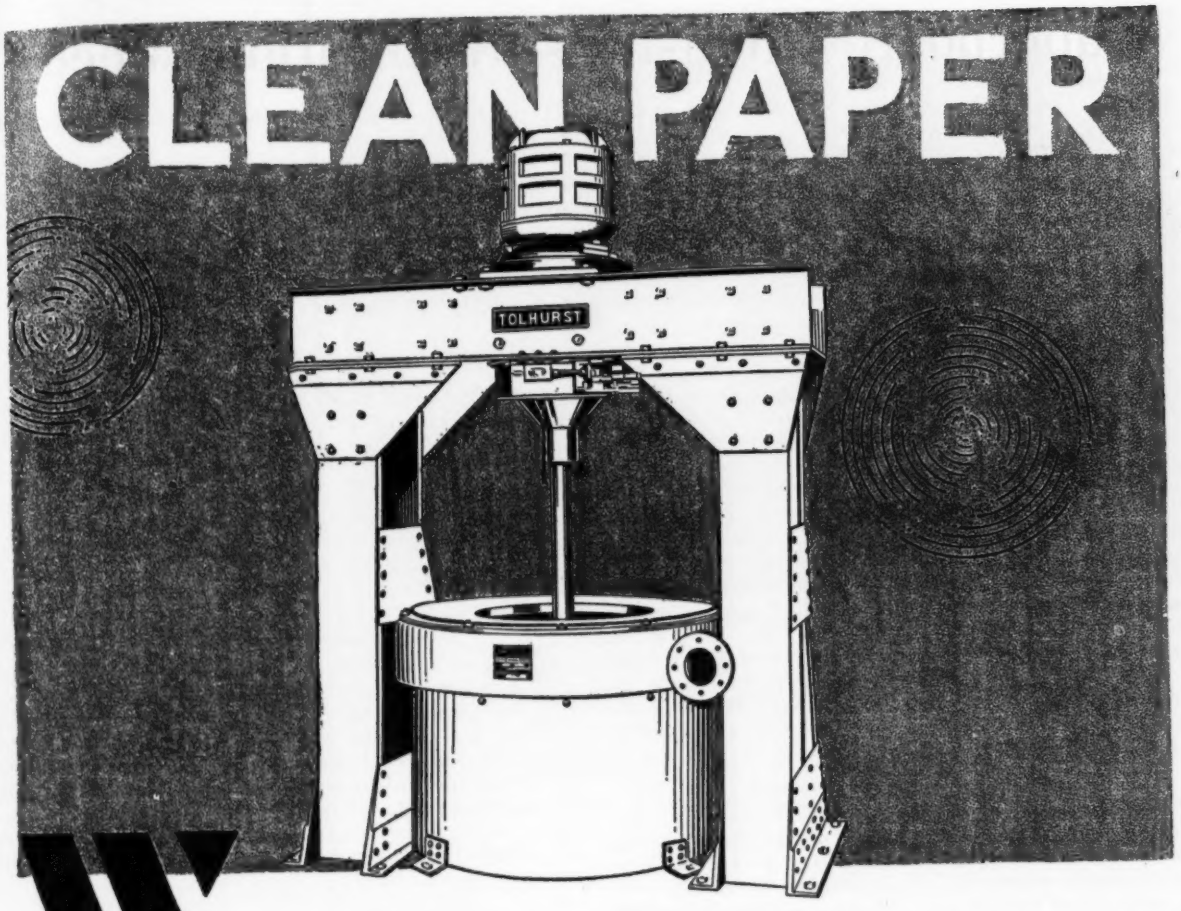
Paper Merchants Meet In Chicago

CHICAGO, Ill., December 16, 1929.—The Middle States Wrapping Paper Association met Tuesday, December 10, at the Congress Hotel. The association, according to Leo Altholz, president, is composed of jobbers both in and outside of Chicago, as differentiated from the Chicago Paper Association with membership in Chicago only. The most important business, aside from general routing procedure, according to James Danehy, of the Schwarz Paper Company, secretary-treasurer, was the passing of a resolution in which the association opposes efforts of some kraft mills to enforce terms of net cash, thirty days. The resolution was also passed by the Chicago Paper Association at its Tuesday evening meeting at the Bismark Hotel. The resolutation was adopted because members of the association felt that such terms were unfair to good jobbers, penalizing them because of the action of some jobbers who would not pay bills. It is the first time, according to Mr. Danehy, that either association has gone on record to take a hand in telling manufacturers what they considered an improper procedure in dealing with reliable merchants.

Taggart Paper and Bag on $1.00 Basis

OSWEGO. N.Y., December 16, 1929.—At a meeting of stockholders of the Taggert Paper and Bag Corporation, early this week the common stock of the company was placed on a $1 dividend basis. This was the initial dividend of the stock which is widely held by various parties in this section. The quarterly dividend of 25 cents is payable on January 2 to stock of record of December 14. Reports that the corporation would place the stock on a dividend basis have been current in this city for the past week. Officials of the firm report a steady increase in earning power. During the first six months of the year the earnings totalled approximately $1.25 and the report for the year is expected to reach $.50 per share. For the six months ending last December 31 the earnings were less than fifty cents a share. The corporation officials declare that prospects are bright for even a still more prosperous year in 1930.

CLEAN PAPER



WHERE DOES YOUR PAPER STAND WHEN COMPARED TO THAT PROCESSED IN A TOLHURST?

THE paper that has the call today has been centrifugally prepared. Besides removing all foreign matter from the stuff and assuring a stronger. better formed sheet, the Tolhurst removes sales resistance as well.

DESIGNED AND BUILT BY SPECIALISTS

This machine is made under license of the Centrifugal Engineering and Patents Corporation, holders of the Erkensator Patents.

Write for catalog describing the process fully and showing how a cleaner, stronger sheet with few seconds is made possible.

TOLHURST MACHINE WORKS, INC.
TROY, N. Y.

New York Office:
30 Church St.

Chicago Office:
8 So. Dearborn St.

Paperboard Industries Association Meets

The annual meeting of the Paperboard Industries Association was held at the Commodore Hotel, New York City, Thursday, November 21, 1929. At this meeting and at the Group Meetings held on the 19 and 20, the following officers were elected for the ensuing year: President and Chairman of Executive Committee: Hugh Strange, of the John Strange Paper Company, Menasha, Wis.; Vice-President—Paperboard Group: Henry D. Schmidt, of the Schmidt & Ault Paper Company, York, Pa.; Vice-President—Container Group: J. H. Macleod, of The Hinde & Dauch Paper Company, Sandusky, Ohio; Vice-President—Folding Box Group: A. C. Osborn, of the United States Printing and Litho. Company, Cincinnati, Ohio.

In addition to the president, who was elected by the general membership, and the Vice-President, elected by the individual groups, each of whom was elected a member of the Executive Committee, the following were also elected as Members of the Executive Committee: Representing the Paperboard Group: J. P. Brunt, of the Container Corporation of America, Chicago, Ill.; Representing the Container Group: Mr. J. J. Brossard, of the Fort Wayne Corrugated Paper Company, Fort Wayne, Ind.; Mr. H. C. Krannert, of the Inland Box Corporation, Indianapolis, Ind.; Representing the Folding Box Group: Mr. E. T. Gardner, of The Gardner & Harvey Company, Middletown, Ohio; Mr. W. G. Latham, of the Fort Orange Paper Company, Castleton-on-Hudson, N. Y.

The Annual Meeting of the Three Groups of the Association convened at 10:15 A.M., Thursday, November 21 with President J. J. Brossard, presiding.

Address by Gilbert H. Montague

This meeting was addressed by Gilbert H. Montague, a lawyer of 67 Wall street, New York City, a man who has had a considerable amount of experience in trade practice work. Mr. Montague's remarks described the establishment of a means for making trade practice rules effective. He reviewed somewhat in detail just how other industries with which he was familiar are setting up bureaus for the administration of trade practice rules.

Mr. Montague expressed the view that trade practice work could readily be administered either inside or outside an association, and that his view had always been that the activity should be established in whichever way it would command the greatest number of supporters.

Discussions re. Trade Practice Work

The subject of trade practice work was discussed in considerable detail and the following resolutions were adopted with respect to the administration of this activity; namely—

RESOLVED, That the Trade Practice Administration be handled by another Division of the Paperboard Industries Association; three representatives of the Trade Practice Administration to sit with the Executive Committee on matters partaining to trade practice work;

RESOLVED FURTHER, that Mr. I. W. McLean be charged with the responsibility of conducting this work and that he be supported by suitable counsel.

Executive Committee's Report

President J. J. Brossard submitted the report of the Executive Committee covering subjects considered by the Committee at a meeting on Monday, November 18. This report covered the action or recommendations of the Committee in connection with the following subjects; namely—

(1) Association Finances
(2) Applications for Membership
(3) Rates on Fiberboard and Fiberboard Boxes between Official and Southern Territories.
(4) Recommendations of the folding box manufacturers in the New York City Zone.

The complete report submitted by the Executive Committee was accepted by the meeting and included in the Minutes of the Meeting.

Election of Members

The following companies were unanimously elected to membership in the Groups named below:

Cornell Wood Products Company, Chicago, Ill., Paperboard.
Detroit Paper Products Company, Detroit, Mich., Container.

General Manager's Report

General Manager Browder submitted a report in which he reviewed the major activities of the Association, including therein reference to—

Membership Status
Association Finances
Trade Practice Administration
Sales Promotion and Publicity
Traffic and Classification Matters
Laboratory Service
Railway Freight Claim Comparison

Sales Promotion Committee's Report

An interesting report on the subject of extending the use of paperboard and paperboard products, which work is carried on under the direction of the Sales Promotion Committee, of which J. M. Arndt is chairman, was submitted by A. W. Luhrs, sales promotion representative. The report showed conclusively that the use of paperboard and paperboard products is being materially increased in a number of specific fields. The detailed report of the Committee, 92 printed pages, showing where new opportunities for the sale of paperboard products can be found, has been mailed to each member company.

Statistical-Accounting Committee's Report

Grafton Whiting, Statistician-Accountant, submitted the following outline covering work done by the Statistical-Accounting Division during the past year:

"A cost estimating manual has been prepared and submitted to members of the folding box group. This manual has also been discussed at meetings of the Cost Division, in which our association participates.

"A cost manual has been prepared for the Paperboard Group, which was reviewed in detail at the meeting on Wednesday.

"In the corrugated division, we have been working on a so-called specimen price list, which it is expected will be discussed at the next meeting. Considerable work has been done in trying to develop a basic plan for such a price list which could be sent to individual customers. It, of necessity, had to be expressed in simple terms to permit the customer to figure his requirements and determine the selling price offered by the vendor.

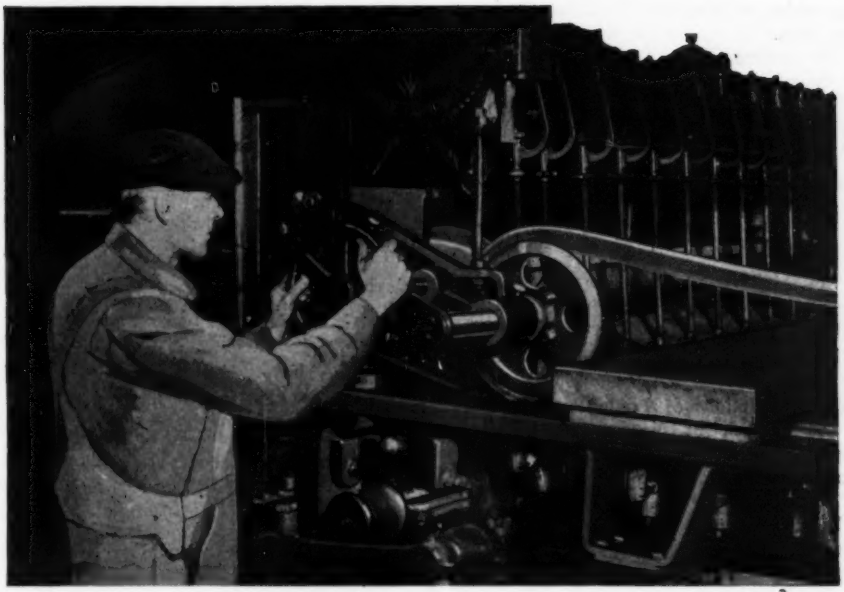
"Special work has been done in connection with cost accounting in the plants of 15 members during the past year. This service is extended without charge to all members.

"The Association statistical work has been carried on without interruption and throughout the year issuance of summaries has been made exactly on schedule. Promptness and accuracy are the first essentials in judging the efficiency of this activity.

"The coming year promises to be one of increased importance from the cost acounting and statistical standpoint, and it is hoped that a statement of accomplishments may be made for 1930 as satisfactory as that for the year just past."

Folding Box Group Meeting

The Folding Box Group meeting was held Tuesday morning,



This shows one of the exclusive features of the Voith Inlet which permits deckling in while the machine is running.

283 Reasons Why

If you ask us how we know that the Voith High Pressure Stock Inlet is the most satisfactory inlet in the paper industry today—we have but to point to the 283 installations in 130 mills in United States and Canada.

In some mills greater capacity is regarded as the most important advantage—in others it may be the uniform caliper or better formation—still others may favor the advantage of being able to deckle in while the machine is running.

In *all* cases, however, will be found the final and most important advantage of *better paper* at *lower cost*.

Whether you are contemplating a new machine or dissatisfied with your present installation—the Voith Inlet should be given a careful and thorough investigation.

Write the Valley Iron Works Co., Appleton, Wisconsin, for any information desired.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Manufacturing & Sales Division: Smith & Valley Iron Works Co., Portland, Oregon
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

November 19, with Mr. H. H. Stonebarger, Group Vice-President presiding.

The following is an outline of the principal subjects considered at the meeting:

1. The Sales Promotion Committee's Report on "Extending the use of Folding Boxes."
2. Statistical-Accounting Subjects
   (a) Meeting of the Cost Division
   (b) Folding Box Statistics
   (c) Cooperation with Census Bureau, Department of Commerce.
   (e) Cost Work.
3. The Administration of the Trade Practice Rules.

Container Group Meeting

The Container Group Meeting was held Tuesday afternoon, November 19, Vice-President H. C. Krannert presiding.

Recommendations of Trade Practice Investigating Committee

The first order of business was the report of the Trade Practice Investigating Committee consisting of Mr. J. J. Brossard, Chairman, and Messrs. Sidney Froham, E. R. Hankins, F. J. Kress and S. Katz.

The Committee recommended certain changes with regard to the administering of the Trade Practice Rules, approved for the paper board, container and folding box industries by the Federal Trade Commission.

Address by Gilbert H. Montague

As a supplement to the committee's report, Mr. Gilbert H. Montague, a lawyer of New York City, addressed the Group Meeting and explained in detail with regard to the administration of trade practice rules by various industries with which he was familiar. He reviewed various decisions by the Supreme Court affecting trade practice procedure by industries, and at the conclusion of his address, he answered a number of questions which were asked by the members.

The Committee's recommendations were discussed at considerable length, and were adopted by the Container Group, with the understanding that the general subject would be further considered at the General Meeting of the Three Groups in joint session, to be held Thursday morning, November 21.

General Manager's Report

General Manager Browder's report of subjects of interest to the Container Group membership, a copy of which has been mailed to each member, contains advice regarding the following items:

(1) Traffic and Classification Matters
   (Detailed advice re. recent changes in carriers' shipping container specifications, which increase materially the fields in which corrugated and solid fiber containers may be used for the shipment of various articles); also a review of such changes made in the past year.
(2) Elmendorf Basis for Test of Cloth Tape.
(3) Cooperation with Bureau of Explosives re. Specifications for containers and Packing for Dangerous Articles.
(4) Comparison of Railway Freight Claims
   (Payments in 1928 compared with previous years)
(5) Work performed at Chicago Laboratory
   (Package Designs and Drum Tests)
(6) Inspection Service to Maintain the Quality of Corrugated and Solid Fiber Boxes.

Paperboard Group Meeting

Members of the Paperboard Group met Wednesday, November 20, Vice-President Hugh Strange presiding.

Vice-President Strange's Report

Vice-President Hugh Strange submitted a most interesting and constructive report in which he reviewed in a clear manner the situation obtaining in the paper board industry. He emphasized the necessity for each manufacturer determining his cost. He expressed the view that bad practice in the industry arises from fear, fear as to what the other fellow may or may not be able to do, and that fear is largely due to ignorance, and that ignorance goes out when knowledge enters.

His report also contained data of interest to the industry in connection with the National Forecast of Freight Carloadings; Dun's Review with regard to general business conditions; and the Guaranty Trust Company Survey.

The above subject was discussed in considerable detail and the statistician was requested to submit at the January meeting as complete figures as possible, subdivided by appropriate divisions, showing the potential manufacturing capacity of the paper board industry.

Maintaining Quality Standards

It was clearly the sense of the meeting that the paper board manufacturer supplying test liner board has a responsibility to his industry in that it is his duty to supply liner board of the proper standard of quality and that he should not knowingly supply a substandard product to a fabricator who intends to use such material in violation of the carriers' shipping container specifications.

Vice-President Strange strongly urged that paper board manufacturers give careful attention to the quality of their product with a view to supplying material adapted to the purpose for which it is to be used by the fabricator.

Administering the Trade Practice Rules

A general discussion ensued with regard to recommended changes in administering the trade practice rules, which subject had been discussed at the Container Group Meeting on the previous day. The Paperboard Group took no definite action on this subject, the understanding being that it would be further considered at the General Association Meeting, attended by the members of the Paperboard, Container and Folding Box Groups, to be held on the following day.

Cost Manual Prepared by Association

Grafton Whiting, Statistician-Accountant, and A. K. Hornof, Assistant Accountant, reported in detail with regard to the Cost Manual, which has been prepared for the Mill industry. Copies of the manual have been furnished to members.

On motion duly made, seconded by practically every member in the room, and unanimously carried and followed by applause, a vote of thanks was extended to retiring Vice-President Strange for the able and effective manner in which he served the paper board industry during the past year, and the best wishes of the entire membership were extended to the new Vice-President, Henry D. Schmidt.

The Dinner, Thursday Evening

At 7:00 P.M., Thursday, November 21, members assembled in the West Ball Room, of the Commodore Hotel for dinner.

The dinner was supplemented with music, as well as songs appropriate to the occasion, which were rendered by professional talent, assisted by the membership.

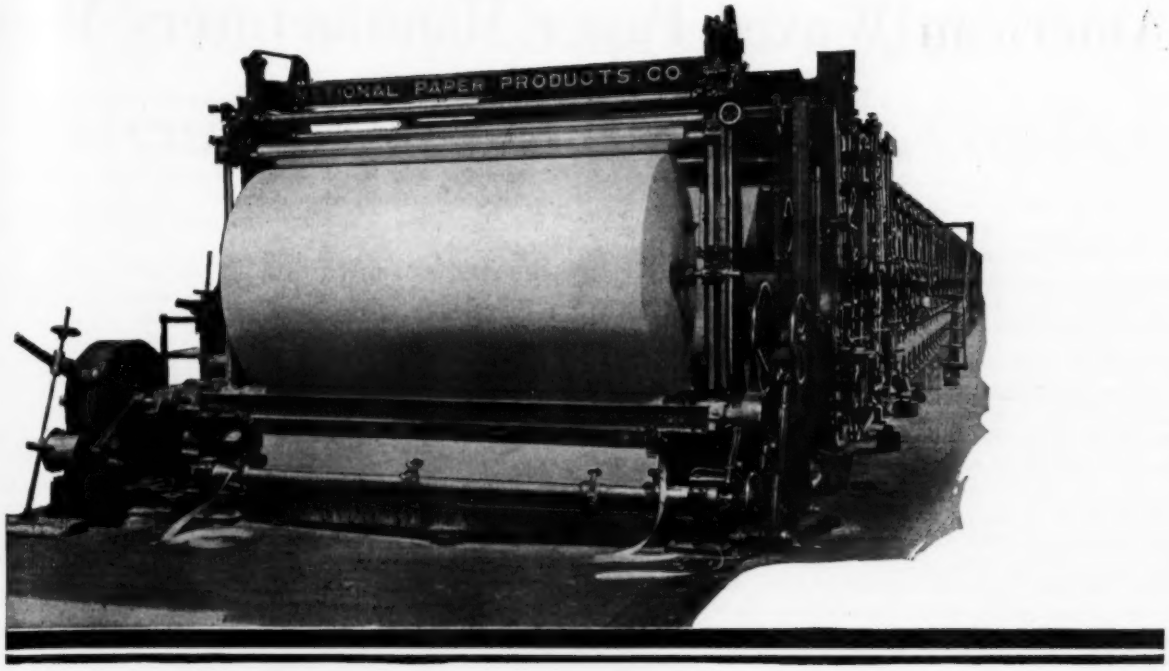
All arrangements for the dinner were made by a Special Committee, consisting of H. C. Campbell, T. C. Mitchell and H. H. Stonebarger.

Following the dinner, interesting talks were made by the retiring and the newly elected officers.

Fletcher M. Durbin, the first President of the Association, was in attendance as a guest of honor, and he made a most inspiring talk. A very interesting and constructive talk was also made by Mr. J. P. Brunt, the second President of the Association.

President John J. Brossard presided at the speakers' table and during the ceremonies he surrendered the gavel to Mr. Hugh Strange, the President elected for the ensuing year. President Strange made a few most constructive statements, which met with a hearty reception.

Appropriate tokens (beautiful cigar and cigarette humidors, bearing engraved gold name plates) were presented to the four past presidents of the association Fletcher M. Durbin, J. P. Brunt, W. J. Alford, Jr., and John J. Brossard. The presentation speeches were made by M. J. Kress whose remarks were most fitting and well received.

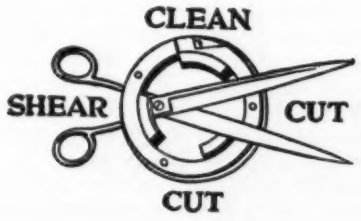


The Paper is CUT—

Not GROUND Apart

With the Langston Shear Cut you get a sharp, clear cut and even-edged, dust-free rolls. Where the paper is crushed and ground apart, the rolls are dusty, and this dust not only means trouble for the ultimate user, but frequently a direct loss to the paper manufacturer. The Shear Cut is only one of the many Langston features which deserve your careful study before you purchase Slitting and Winding equipment. Ask us for further facts.

SAMUEL M. LANGSTON COMPANY
Camden, New Jersey



LANGSTON SLITTERS

American Waxed Paper Manufacturers Meet

The American Waxed Paper Association held a two days convention at the Hotel Astor, New York, last Wednesday and Thursday, December 11 and 12. More than thirty waxed paper companies were represented, the attendance representing approximately 90 per cent of the tonnage east of the Rockies.

The meeting was called to determine the advisability of group activities by classifications within the industry. This subject, in conjunction with the trade practice rules for the industry, are progressive activities of great merit, and the industry is becoming more firmly united in its activities for stabilized conditons.

Process of Readjustment Slow

In any industry where conditions had developed so contrary to good business procedure as they had in the waxed paper industry, the process of readjustment must of necessity be slow, because there are so many corrections to be made and because they must be made in sequence to avoid all possible confusion.

Much good has already been accomplished, the foundation has been made for advanced progress provided the manufacturers will remain in support of the program sufficiently long to determine what weaknesses may be necessary for correction or which changes, if any, will be desired to further improve it.

Waxed Paper Group Exceptionally Active

Probably no group in the paper industry has been as active as the waxed paper manufacturers. They have accomplished much more than is evident on the surface at this time, and are just beginning to realize benefits from it. The industry has combined and has remained in support of many elements of the program for nearly a year for the first time, and they have demonstrated that they can get together and can support progressive activities. Cooperating within and without the association are about 75 per cent of the manufacturers and over 85 per cent of the total tonnage.

Business Problems Analyzed

The association has developed from a small organization to a membership of 21 and under the management of Paul S. Hanway has gone deeper into the research and analysis of the business problems than is common to associations in general. If the spirit of cooperation which now exists will continue during the coming year, without doubt, the waxed paper manufacturers will have taken the lead in advancing along constructive lines for the benefit of an industry.

Joseph H. Davies Addresses Luncheon Guests

The two-day convention included a successful luncheon, held in the College Hall of the Astor Hotel on Thursday last, at which Joseph H. Davies, former chairman of the Federal Trade Commission and senior member of Davies, Jones & Bushwick, a well-known firm which acts as council for the American Waxed Paper Association and other groups in the paper industry, was the principal speaker. He is an outstanding figure in Washington, D. C., and is personally acquainted with practically all governmental and industrial leaders in Washington.

Secretary Hanway's Qualities Praised

Mr. Davies congratulated the members of the association on the able and efficient manner with which their affairs were administered by Secretary Hanway and expressed his deepest admiration of Mr. Hanway's diplomatic skill. He described the work of the Federal Trade Commission in a comprehensive manner and said that at the present time the commission was generally regarded as a constructive and helpful agency to American business.

Trade Association's Functions Discussed

The speaker also discussed trade association functions in various countries and praised the services rendered by the various organizations to industry. He said that association work was perfectly legitimate, honest, lawful and beneficial, and declared that a trade association is an agency of cooperation which always became a vital necessity when an industry is in jeopardy because of cut throat competition and unfair practices resulting in demoralized business.

He added that a trade association is necessarily a social organization functioning for group interests larger than any individual unit and the results of trade association activities are not usually direct or rapid. Time is required for the successful consummation of trade association policies.

W. L. Carter Reviews Progress of Industry

W. L. Carter, of the Nashua Gummed and Coated Paper Company, made an efficient chairman at the luncheon, and spoke of the great progress that had been made towards puting the waxed paper industry on a sound basis and added that he felt sure that the spirit of cooperation manifested by the members of the association would carry this division of the paper industry a long way towards prosperous business activity.

Jesse H. Neal, the new general manager of the American Paper and Pulp Association, and W. B. Powell, manager of Appleford Paper Products, Ltd., Hamilton, Ont., also spoke.

I. P. Electrical Output Makes Record

The International Paper and Power Company system produced 443,572,000 kilowatt hours of electric energy in October, a new high record for a single month and an increase of 25 per cent over the output of the system in October, 1928. In the first ten months of this year the output of the company was 3,864,755,000 kilowatt hours, 10 per cent greater than in the full year 1928, and 38 per cent over that of the corresponding period of last year.

Included in the output figures are those of the International Hydro-Electric System—controlling the New England Power Association and the Canadian Hydro-Electric Corporation, Limited—and of the hydro-electric plants of the International Paper Company group.

This high output not only reflects the growth of the company but also indicates the expanding industrial activities in the areas served by its subsidiaries. The outputs of both the New England Power Association and the Canadian Hydro-Electric Corporation, Limited, thus far this year have increased more over the corresponding period of last year than those of the countries in which they are operating.

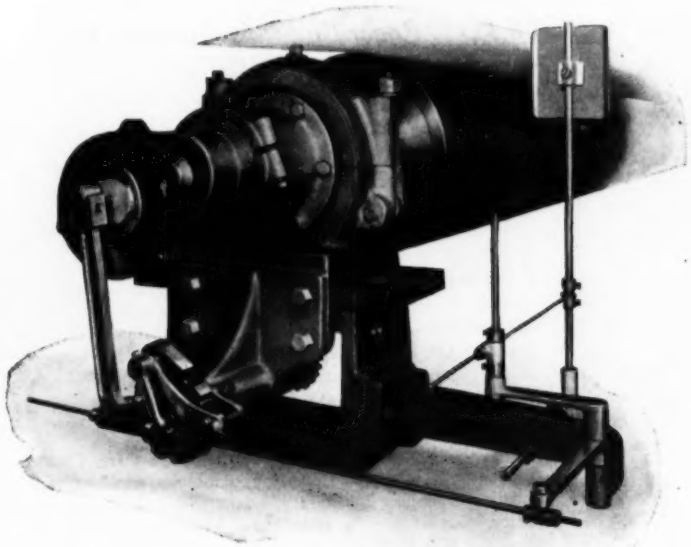
Western Tablet Co. Has Good Year

KALAMAZOO, Mich., December 12, 1929.—The past year has been a splendid one for the Western Tablet and Stationery Company, according to reports announced following the meeting of the directors in Chicago. For the fiscal year, which ends Oct. 31, net earnings were shown to be $943,775 as against $541,312 for the previous year. This is a gain of $402,463, or 75 per cent and equal to $6.01 per share on the 116,045 shares of common stock outstanding Oct. 31, 1929. The earnings per share on 100,235 shares outstanding Oct. 31, 1928, were $3.11.

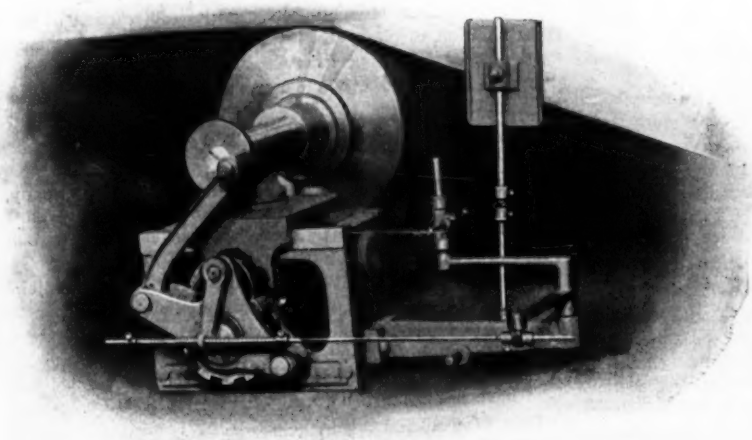
Directors have voted to continue the payment of 50 cents dividends of 50 cents a share quarterly on the common stock and $1.75 quarterly on the preferred stock.

Western Tablet and Stationery ranks today as the largest producer of paper tablets and stationery in the United States. In addition to the plant of the Kalamazoo Stationery Company, which is one of the units, they have plants in St. Joseph, Mo.; Huntington, Pa.; Richmond, Va.; West Carrolton, Ohio and Holyoke, Mass.

M. & W. Single Fender Patented Automatic Wire Guides



BALL BEARING TYPE



PLAIN BEARING TYPE

Note from the illustrations that the pawl when engaged in teeth of ratchet wheel, has a full bearing surface, eliminating wear, also the purchase of many expensive ratchet wheels and pawls.

When the wire is running in the center of machine the pawl cannot transmit any motion to the guide roll. Should the wire travel to the other side of the machine, the positive and quick action of the pawl would immediately cause the Wire Guide to properly align the wire.

The Single Fender feature on these Guides increases the life of the wires considerably, as only a very slight contact between the fender and wire is sufficient to operate the Wire Guide when necessary.

The single fender Guides are more convenient, especially when putting on new wires.

Bulletins on request

THE MOORE & WHITE CO., NORTH PHILA. STATION PHILADELPHIA, PA.

PAPER · MACHINE · BUILDERS

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Cloquet, Minn.—The Northwest Paper Company, Cloquet, has plans under way for the construction of a new addition to its mill, consisting of a two-story, brick and steel unit for increased capacity. Installation will include a new paper-making machine, beaters and complete auxiliary equipment. It is understood that work will be placed in progress early in the spring. Estimated cost has not been announced. The Jacobson Engineering Company, Plymouth Building, Minneapolis, Minn., is engineer for the project. H. S. Hornsby is president.

Monroe, La.—The Brown Paper Mill Company is pushing work on its plant expansion program and will have new structures ready for equipment installation early in the coming year. Superstructure is in progress for three main multi-story units, including paper-making mill, finishing mill and turbine building. The structural steel work for the buildings is being handled by the Virginia Bridge and Iron Company, Roanoke, Va. The entire program will represent an investment of close to $5,000,000, and has been designed to double the capacity of the plant. Company has awarded a contract to the Layne-Louisiana Company, Lake Charles, La., for increasing the artesian water supply at the plant to about 9,000 gallons per minute. The elevated storage water tank has been taken down and will be located at another portion of the plant; this work is in charge of the Chicago Bridge & Iron Works, Inc., Chicago, Ill. The plant construction is being carried out by the Morton C. Tuttle Company, 31 St. James avenue, Boston, Mass. George F. Hardy. 309 Broadway, New York, is engineer.

East Millinocket, Me.—The Great Northern Paper Company, East Millinocket, is planning the construction of a new plant in the vicinity of Metawamkeag, Me., reported to cost more than $70,000, with equipment. It will be used for mill service.

Antioch, Cal.—The Fibreboard Products Company is said to be planning the rebuilding of portion of plant recently destroyed by fire with loss reported at close to $25,000. The bulk of the damage was confined to the waste paper division of the mill and is covered by insurance.

Beaumont, Tex.—The Gulf Paper Products Company, Inc., recently organized by O. B. Sawyer, 875 Fifth avenue, Beaumont, is planning the early construction of a new local plant, 60 x 120 feet, for the manufacture of commercial paper goods, including tablets, blank books, and similar specialties. It is understood that the entire plant will approximate about 40,000 square feet of floor space, and is reported to cost approximately $60,000, with equipment. W. B. Livesay, San Jacinto Life Building, Beaumont, is architect. Mr. Sawyer will head the new company.

Dallas, Tex.—The Pollock Paper and Box Company, 2236 South Lamar street, is disposing of a bond issue of $250,000, a portion of the proceeds to be used for general operations, financing and expansion, including recent purchase of other plants, to be consolidated with the organization. The company operates the Dallas Paper Company, 2311 Yaws street; Texas Paper Box Manufacturing Company, 1200 Patterson avenue; and a distributing plant, the latter being located at Kentucky and Rio Grande streets, Fort Worth, Tex. Another subsidiary is the Southern Waxed Paper Company, 8840 Woodrow avenue, Atlanta, Ga. The parent organization operates a large paper box and container plant at location noted. The company is headed by Lawrence S. Pollock, president and general manager. Leslie L. Jacobs is vice-president, and Henry S. Jacobs, secretary and treasurer.

Bradford, Pa.—The Ideal Label and Box Company, recently organized with a capital of $100,000 by Clarence W. Johnson, 30 Summer street, Bradford, and associates, is said to be planning the early operation of a local plant for the manufacture of paper boxes, containers, cartons, etc. It is proposed to develop extensive capacity. Arthur L. Johnson, Bradford, will also be an official of the new concern.

Philadelphia, Pa.—The Keystone Index Card Company, 3223 Race street, manufacturer of card stocks, etc., has taken out a permit for a new addition to plant to be used for increased capacity, particularly in connection with storage and distributing service. It will be one-story, located at 217 North Thirty-third street, estimated to cost about $20,000, with equipment. It is understood that the company will proceed with an addition to manufacturing plant in the near future.

Springfield, Mo.—The Springfield Tablet Manufacturing Company, 214 South Jefferson street, manufacturer of pads, tablets and kindred paper products, has awarded a general contract to M. E. Killiox, Monnett, Mo., for the construction of proposed new addition to plant recently referred to in these columns, and will proceed with superstructure at once. The unit will be two-story, L-shaped, 60 x 120 feet, with one story extension, 50 x 60 feet, and is estimated to cost about $50,000, with equipment. Baldwin & Baldwin, Magnolia Building, Oklahoma City, Okla., are architects.

Oakfield, N. Y.—The United States Gypsum Company, 300 West Adams street, Chicago, Ill., manufacturer of wall board products, wood fiber plaster, etc., has concluded negotiations for the purchase of the plant and business of the Niagara Gypsum Company, manufacturer of kindred products, with mill adjoining a branch plant of the acquiring company. The purchasing organization will consolidate the Niagara company with its corporation, and will also combine operations at the two plants. The Niagara property has a rated output of about 500 tons a day, and mill and land have been valued currently at close to $500,000.

Fort Wayne, Ind.—Fire, recently, damaged a building at the plant of the American Waste Paper Corporation, Coombs and Cockran streets, used for storage and distributing service. An official estimate of loss has not been announced. It is understood the damage will be replaced.

New York, N. Y.—M. Klein, 309 East Third street, supplies for paper manufacturers etc., has leased two floors in the building at 144 Goerck street, and will occupy for expansion.

Indianapolis, Ind.—Deubener's Shopping Bag, Inc., 2702 Applegate street, manufacturer of special paper bags and containers, is planning a general expansion and improvement program at

UNIFORM

Shenango-Penn Roll Covers Shrink On The Spiders Perfectly!

By the Shenango-Penn Method of casting molten bronze and cooling it under centrifugal pressure, the distribution of the internal stresses is absolutely uniform thus permitting a perfectly even grip on the roll shaft when being shrunk on.

This is an exclusive advantage of the Shenango-Penn process which assures tight, smooth-fitting covers that are not only tough, durable but acid resisting as well.

Let us quote you on your requirements.

Shenango-Penn Mold Company

Oliver Building, Pittsburgh, Pa.

Works at Dover, Ohio and Sharpsville, Pa.

SHENANGO PENN

CENTRIFUGALLY CAST

BRONZE

its plant, including the installation of equipment to increase the present capacity of about 40 per cent. The work will be carried out early in the coming year, and is reported to cost more than $20,000. W. H. Deubener is president.

Monroe, Mich.—The Consolidated Paper Company sustained a fire loss at its mill on December 5, totaling about $25,000, the majority being represented by paper and pulp stocks, including storage facilities.

Sandusky, Ohio—New interests have acquired control of the Paper and Textile Machinery Company, with local mill. It is understood that the acquiring interests consist of a group of four leading manufacturers of paper-making machinery, names temporarily withheld. It is proposed to continue production at the Sandusky plant as heretofore, and to carry out an expansion program for increased capacity. W. H. Mill.paugh has been president of the Paper and Textile Machinery Company since establishment about ten years ago.

New Companies, Etc.

Boston, Mass.—The Fibre Corporation has been incorporated with capital of 250 shares of stock, no par value, to manufacture and deal in fiber pulp products. The company is headed by Thomas H. Needham, president; and Paul O'Sullivan, 110 Browne street, Brookline, treasurer.

Chicago, Ill.—The Deerfield Glassine Company, a Delaware corporation, manufacturer of glassine paper stocks, has filed notice of increase in capital from 61,500 to 65,000 shares of stock, no par value.

San Francisco, Cal.—The California Corporation Commission has authorized J. B. & H. L. Zellerbach, Inc., the original holding company for the Zellerbach Paper Company, and affiliated interests, to distribute assets of $205,086 to the stockholders.

New York, N. Y.—The Matthew Balich Corporation has been incorporated with capital of $125,000, to manufacture and deal in insulating board specialties. The incorporators are Matthew Balich, Clifford E. Brundage and Pater J. Balich. 204 West Sixty-eighth street, New York. The company is represented by Murray Levine, 300 Madison avenue, New York, attorney.

Imperial Paper Expansion

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., December 7, 1929.—The Imperial Paper and Color Corporation has nearly completed construction of a large fireproof addition which will house laboratories for the color division besides providing additional warehouse and shipping facilities. The new structure adjoins the main mill and will be ready for occupancy early in January. The corporation is said to be planning extensive developments in both the wall paper and color divisions. In connection with the numerous changes announcement was made this week of the sale of the holdings of George M. Tait, formerly president of the firm, to a number of other stockholders. More than 1,000 hands are now employed by the firm in plants operated in Glens Falls, Plattsburg, and Hackensack, N. J.

Champion Paper Co. Repairs Done

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N.Y. December 16, 1929.—Extensive repair work to the dam of the Champion Paper Company was completed this week by a gang of men under the supervision of E. G. Eggleston. The workmen spent several weeks in strengthening timbers in the dam to withstand water and ice pressure this winter. It was learned that the dam was in bad condition and if the work had not been done it would probably have broken with additional pressure against it. The dam supplies water to the mills of the Champion Paper Company and the Taggart Paper and Bag Corporation, at West Carthage. Further repairs will be made to it in the spring.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 16, 1929.—Samuel T. Freeman & Co., auctioneers, of this city and Philadelphia, are to offer two paper mill properties at public auction this week. The sale of the machinery, real estate, water power and equipment of the Kaydeross Paper Company, Inc., West Milton, N. Y., is scheduled for December 18. This mill, which has been idle for some time, manufactured Nos. 1 and 2 white tissue, manila and anti-tarnish kraft tissue, toilet, napkin, toweling and lightweight specialties. The other property, which is to be offered December 20, is the Rollstone Paper Company, Fitchburg, Mass., formerly owned and operated by the Geo. W. Wheelwright Paper Company. This mill, which has also been idle, manufactured grease proof and glassine lines. Both auctions are to be held on the premises.

William Edwin Rudge, of Mt. Vernon, N. Y., who spoke at a recent meeting of the Boston Club of Printing House Craftsmen, paid a tribute to Edgar S. Bliss, president and treasurer of the Worthy Paper Company Association, Mittineague, Mass., for developing papers that have helped to make some remarkable editions possible.

The December number of The Hamlet News, published by Arthur E. Ham & Sons, contains greetings, interesting items and price lists of special lots of paper.

J. J. Shea, superintendent of the Springfield (Mass.) plant, and Mr. Steele, of a western plant, both of the United States Envelope Company visited the Cambridge Paper Box Company, Cambridge, Mass., last week.

Howard Griffith, of the Dennison Manufacturing Company, Framingham, Mass., was chairman of the entertainment committee in connection with the annual Christmas party of the New England Purchasing Agents Association at the Elks Hotel.

American Tissue Mills Entertain

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., December 17, 1929.—One of the most elaborate entertainments of late years was given at the Hotel Nonotuck Friday night by the American Tissue Mills, Inc., and B. F. Perkins & Son, Inc., the large ballroom being used and some 150 executive staff officers and invited guests being present.

Benjamin F. Perkins president and general manager and J. Lewis Perkins, Jr., treasurer of the organization and sons of the late J. Lewis Perkins spoke briefly of the fine spirit of the company officers and personnel on the occasion of this the third anniversary banquet. Tribute was paid the late Mr. Perkins and Thomas Fortune Ryan both of whom were lost to the organization by death during the past year. Mr. Ryan was assistant sales manager.

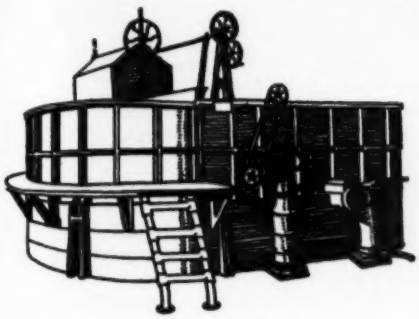
The entire program was in charge of Floyd R. Graham, engineer of the company, who also arranged for the decorating scheme which was made up by the National Paper Supply company of Springfield with the products of the B. F. Perkins company.

The special guests of the night other than those from immediate industrial organizations were the officers and directors of the Park National Bank of this city of which the late J. Lewis Perkins was one of the founders and whose place has been taken by Benjamin F. Perkins.

Noble & Wood Elects New Directors

[FROM OUR REGULAR CORRESPONDENT]

HOOSICK FALLS, N. Y., December 7, 1929.—The Noble & Wood Machine Company has increased the number of its directors by electing Harry N. Weir and Howard B. Thompson to the board for the coming year. Mr. Weir has been with the firm for several years as an executive in both the production and office departments while for the past year he has served as secretary and treasurer. Mr. Thompson is treasurer of the Stevens & Thompson Paper Company.



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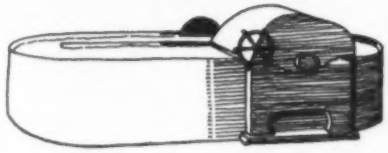

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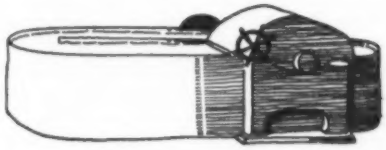

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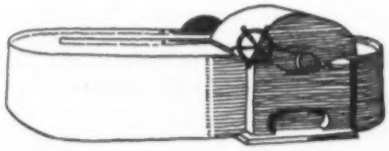


Why 3 beaters when 1 does the work...*better*

The floor space of ONE
... the capacity of THREE
The crew of ONE
..... the output of THREE
The maintenance of ONE
..... the profit of THREE

All the way through the list of beater requirements, the use of the Noble & Wood High Density Beater gives speedier, improved service with marked economy. It is a direct answer to the problem of limited floor space; to expensive paper machines hampered by inadequate supplies of stock; to the necessity of speeding up production without remodeling the entire plant.

Its installation means increased profit. It cuts overhead by reducing motors, belts, power cost per ton, equipment, men; by efficiently utilizing precious floor space; by producing a tougher, more uniform stock that minimizes broke and rejects; by increasing production and eliminating frequent adjustments at the slice on the better grades of paper.

Changing over to these super-efficient High Density Beaters does not necessitate "junking" your present beaters. We can rebuild them to the High Density type, utilizing a good part of the existing equipment. Rebuilding can be done in a very short time. Or we can install the High Density Beaters complete, for plant expansion or to supplement your present beaters. Either way, they will prove a profitable investment. A word to our representative or a line to us will bring you the complete story, with facts and figures... and you'll find it mighty interesting.

NOBLE & WOOD
MACHINE COMPANY
Hoosick Falls New York

Trade Mark Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, 900 F Street, N. W., Washington, D. C., trademark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

NIBROC DURACEL—Ser. No. 255,590. Brown Company, Portland, Me. For paper suitable for use in the manufacture of sandpaper or tags.

NIBROC DURACEL. Picture of mountain.—Ser. No. 256,241. Brown Company, Portland, Me. For paper suitable for use in the manufacture of sandpaper or tags.

KWIKPAK—Ser. No. 288,322. Empire Box Corporation, Chicago, Ill. For paper bread trays.

DBB—Ser. No. 290,094. John A. Slaughter, The Doctors Business Bureau, San Francisco, Cal. For books of printed forms to be used by doctors for the keeping and collection of accounts.

SCHOOLOG—Ser. No. 290,319. Memo Publishing Company, Fort Wayne, Ind. For memorandum books.

EVERETT and picture of press—Ser. No. 280,835. Everett Pulp and Paper Company, Everett, Wash. For cut and uncut coated and calendered writing and printing papers, news pads, mimeograph paper, composition books, tablets, notebooks, folded notepaper, wrapping paper, typewriter paper, book paper, manila tag board, paper board, uncut finished paper stock from which are produced the hereinbefore specified papers, and bond writing papers.

CATHEDRAL—Ser. No. 289,030. Kurtz Bros., Clearfield, Pa. For pencil tablets, composition books, notebooks, pen tablets, practice paper, composition paper, spelling blanks, spelling tablets and writing papers.

STONE—Ser. No. 289,948. Stone & Forsyth Company, Boston, Mass. For paper bags.

THE RED WRITING HOOD and picture of Red Riding Hood and wolf—Ser. No. 281,076. Continental Carbon Corporation, Chicago. For a typewriter accessory comprising a backing sheet and a series of fasteners for holding a plurality of carbon sheets at one edge.

HAMMERFLEX—Ser. No. 283,350. The Hammersley Manufacturing Company, Garfield, N. J. For transparent supercalendered paper such as is used as a base for waxed paper.

HAMMERCLEAR—Ser. No. 283,531. The Hammersley Manufacturing Company, Garfield, N. J. For transparent supercalendered paper such as is used as a base for waxed paper.

CERTIFIED—Ser. No. 289,109. Gotham Tissue Corporation, New York, N. Y. For toilet paper and paper facial tissues.

MOON-LIGHT—Ser. No. 289,625. Gotham Tissue Corporation, New York, N. Y. For toilet paper and paper facial tissues.

SANETTES—Ser. No. 290,272. San-Nap-Pak Manufacturing Company, Inc., New York, N. Y. For cold cream remover made in the form of paper napkins.

VELVELINE—Ser. No. 290,305. Continental Paper and Bag Corporation, New York, N. Y. For toilet paper.

TELEFOLD—Ser. No. 290,929. Autographic Register Company, Hoboken, N. J. For plain, lithographed, and printed paper strips, leaves, and sheets for use in manifolding registers, in typewriters, and in other machines.

TELEFORM—Ser. No. 290,930. Autographic Register Company, Hoboken, N. J. For plain, lithographed, and printed paper strips.

TELEPACK—Ser. No. 290,931. Autographic Register Company, Hoboken, N. J. For plain, lithographed, and printed paper strips.

TELEROLL—Ser. No. 290,932. Autographic Register Company, Hoboken, N. J. For plain, lithographed, and printed paper strips.

SOLEATHER BINDER and design—Ser. No. 282,909. Buchan Telephone Records Company, Philadelphia, Penna. For loose-leaf binders, covers for loose-leaf binders, and loose-leaf forms.

MANAGEMENT—Ser. No. 286,883. Hammermill Paper Company, Erie, Pa. For bond writing paper.

COLLATOR—Ser. No. 289,035. Karl K. Morris, Cleveland, Ohio. For paper bond and coupon filing folders.

UNIVERSAL COVERS—Ser. No. 290,100. West Virginia Pulp and Paper Company, New York, N. Y. For cover paper.

AUTOFORM—Ser. No. 290,927. Autographic Register Company, Hoboken, N. J. For plain, lithographed, and printed paper strips, leaves, and sheets for use in manifolding registers, in typewriters, and in other machines.

HUTONE—Ser. No. 290,968. Peninsular Paper Company, Ypsilanti, Mich. For book paper and cover paper.

LOHENGRIN—Ser. No. 291,290. Old Colony Envelope Company, Westfield, Mass. For writing and printing papers and mailing envelopes and paper and cards for wedding, greeting and announcement purposes.

FILENE'S—Ser. No. 289,726. Wm. Filene's Sons Company, Boston, Mass. For sewing baskets and boxes, hosiery boxes, shoe boxes, etc.

THREE BLACK BANDS AROUND BAG—Ser. No. 290,548. Chase Bag Company, New York, N. Y. For woven or fabric mesh bags made of paper used for packing and shipping potatoes.

THREE GREEN BANDS AROUND BAG—Ser. No. 290,687. Chase Bag Company, New York, N. Y. For woven or fabric mesh bags made of paper used for packing and shipping lemons and all varieties of melons.

Chicago Paper Market Less Active

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 16, 1929.—Manufacturers representatives in Chicago reported this week a tapering off of demand as the last supply for the holiday season came practically to a close. Jobbers were still busy filling last minute orders for dealers who were busy with a Christmas trade that, while not unusually large, was satisfactory. Tissues and wrapping papers were still very much in demand, while the finer grades of fine papers were also reported to be decidedly busy.

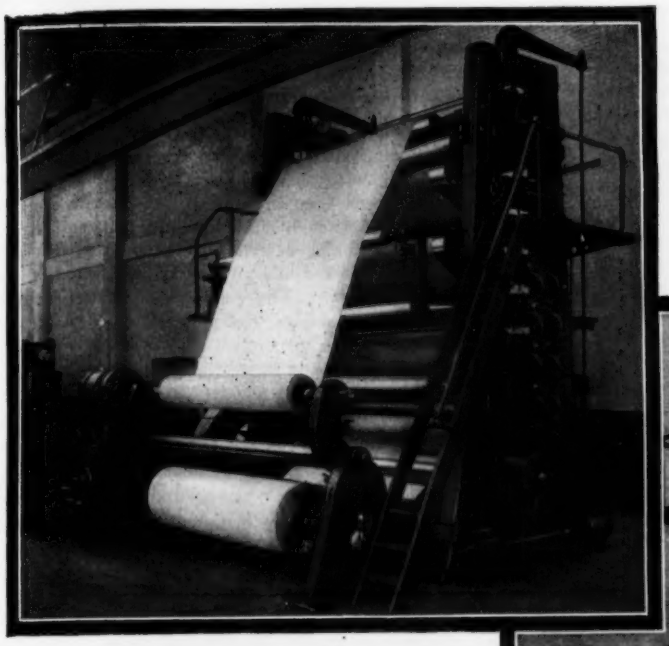
The book and cover market continued its steadiness with prices reported firm. The board market was fair with the price situation still not as settled as everyone concerned would like to have it. Ground woods, in general, are watching the present market with interest, the low water and other factors strengthening the market daily according to reports from Chicago's loop offices. A big increase in advertising lineage recently reported is a natural factor in the good condition of the news print market as far as demand is concerned. Prices in the cheaper grades of waste paper continue to be soft though some of the better grades are said to be in fairly good demand.

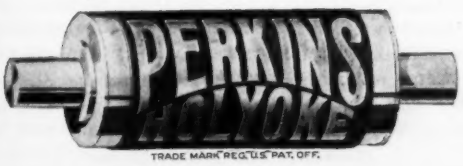
Tight Race Between J. T. Carey and Matthew Burns

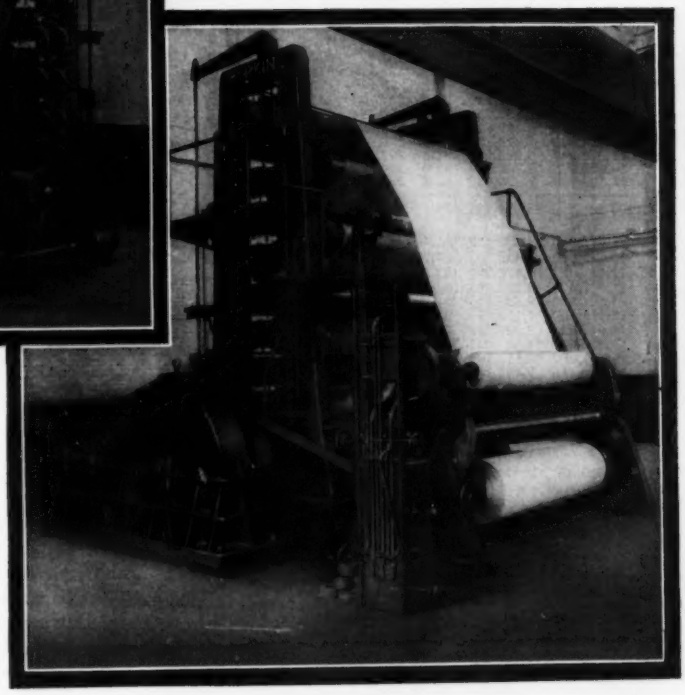
[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., December 16, 1929.—Unofficial reports indicate that the fight between Jeremiah T. Carey and Matthew Burns for the presidency of the International Brotherhood of Papermakers has become a neck and neck race and that a dozen ballots may throw victory to one or the other. The board of canvassers will convene here this week for the purpose of counting and tabulating the vote and it is expected that the work will consume upwards of a week, depending on the number of protests which are filed by either or both candidates as to votes cast by certain locals. The board will pass upon their protests.

Mr. Carey has shown much strength in many localities. It is said that he polled several hundred votes in one of the largest Maine locals and that this served to cut down the lead of Mr. Burns. It is also said that William R. Smith, the retiring president of the organization, has been working in Canada for Mr. Carey and has been successful in switching many votes which had been cast for Mr. Burns at the previous election in October.







Perkins 100" 9-Roll Web Supercalender which is finishing coated paper in one of the largest mills in the world. Top and bottom rolls are equipped with roller bearings. It has direct connected drive employing single motor with dual frequency control.

This machine is one of the outstanding accomplishments of Perkins engineering and construction and is notable for the ruggedness of its stack which is typical of Perkins design.

Paper makers are recognizing more than ever before the importance of rolls, not only in the original machine, but in after years when replacements are necessary. The reputation of Perkins Calender Rolls throughout the industry could only be established through years of successful manufacturing.

B. F. PERKINS & SON, INC., HOLYOKE, MASS.

ENGINEERS and MANUFACTURERS

Cotton Rolls
Paper Rolls
Embossing Rolls
Chilled Iron Rolls
Granite Press Rolls
Web Supercalenders

Glassine Supercalenders
Friction Calenders
Embossing Calenders
Platers
Mullen Paper Testers
Tensile Testers

Ventilating Fans
Rag Cutters
Stock Cutters
Paper Dampeners
Bleach Ejectors

Box Board Production for October

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 16, 1929.—October production of box board, based on reports to the Department of Commerce by 97 firms operating 124 plants (reports for earlier months including five concerns now out of business) was 82.9 per cent of capacity, as compared with 83.2 per cent in September and 81.9 per cent in October, 1928. In the following table the capacity data vary according to the normal number of working days in each month:

Year and Month	Operation			Production			New Orders	Unfilled Orders (end of month)
	Inch hours		Per cent of Capacity	Short Tons		Per cent of Capacity	Short Tons	
	Capacity	Operated		Capacity	Output			
1928								
Jan.	10,372,900	7,833,458	75.5	273,125	203,882	74.6	204,128	80,417
Feb.	10,372,900	8,136,737	78.4	273,125	211,862	77.6	215,333	85,862
March	11,312,244	8,843,542	78.2	297,108	227,344	76.5	244,871	93,380
April	10,474,300	8,311,710	79.4	275,100	221,079	80.4	211,304	84,513
May	10,893,272	8,733,965	80.2	286,104	242,394	84.7	224,366	73,157
June	10,893,272	8,199,515	75.3	286,104	228,646	79.9	228,252	77,782
July	10,474,300	7,992,170	76.3	275,100	201,153	73.1	209,976	79,492
August	11,312,244	9,236,068	81.6	297,108	230,750	77.7	236,682	81,816
Sept.	10,055,328	8,344,464	83.0	264,096	224,971	85.2	234,449	87,097
Oct.	11,384,820	9,430,136	82.8	299,052	244,894	81.9	241,491	81,022
Total 10 mos.	107,545,580	85,061,765	79.1	2,826,022	2,236,975	79.2	2,250,852	.....
1929								
Jan.	11,417,328	9,297,029	81.4	307,268	248,290	80.8	241,086	87,974
Feb.	10,539,072	8,435,967	80.0	283,632	228,034	80.4	227,595	87,726
March	11,417,328	9,416,990	82.5	307,268	256,118	83.4	266,895	96,209
April	11,417,328	9,278,701	81.3	307,268	251,147	81.7	250,366	98,162
May	11,417,328	9,526,063	83.4	307,268	264,830	86.2	240,395	89,485
June	10,978,200	9,170,955	83.5	295,450	241,028	81.6	231,230	81,880
July	11,417,328	9,045,362	79.2	307,268	236,377	76.9	240,617	88,275
August	11,856,456	*9,601,037	*81.0	319,086	*262,307	*82.2	257,318	82,969
Sept.	10,539,072	*8,553,104	*81.2	283,632	*235,962	*83.2	*247,329	87,304
Oct.	11,856,456	9,495,747	80.1	319,086	264,631	82.9	264,338	85,600
Total 10 mos.	112,855,896	91,820,955	81.4	3,037,226	2,488,724	81.9	2,467,169	.....

Year and Month	Shipments of boxboard	Stocks of boxboard, end of month	Consumption of waste paper		Per cent of Capacity	Stocks of waste paper end of month	
			Capacity	Consumed		At plants	In transit and unshipped purchases
	Short Tons		Short Tons			Short Tons	
1928							
January	196,984	49,032	255,225	189,744	74.3	153,747	62,181
February	209,477	50,350	255,225	193,966	76.0	140,104	60,038
March	237,621	40,439	276,966	209,649	75.7	139,255	47,322
April	220,315	40,319	256,450	211,898	82.6	132,621	47,551
May	235,794	49,107	266,708	220,750	82.8	127,217	46,375
June	223,901	53,560	266,708	204,468	76.7	130,484	43,480
July	203,741	49,969	256,450	190,810	74.4	132,265	62,056
August	233,104	47,709	276,966	213,626	77.1	117,009	48,108
September	228,880	45,271	246,192	217,361	88.3	116,197	53,344
October	246,233	43,627	289,440	240,930	83.2	127,989	73,235
Total 10 mos.	2,236,050	.....	2,646,330	2,093.202	79.1	.....	.....
1929							
January	247,498	56,804	297,440	238,652	80.2	137,251	49,104
February	227,206	57,398	274,560	217,442	79.2	126,212	54,121
March	258,604	54,982	297,440	242,073	81.4	137,008	51,520
April	247,773	57,881	297,440	231,089	77.7	142,666	68,005
May	260,283	62,311	297,440	248,813	83.7	150,048	54,433
June	235,865	62,384	286,000	234,119	81.9	159,005	56,904
July	235,863	63,333	297,778	215,537	72.4	175,306	64,359
August	*263,140	61,853	309,231	*256,815	83.0	171,360	61,571
September	*240,349	*58,709	274,560	*240,349	*87.5	*174,884	*89,510
October	268,494	59,244	309,231	254,166	82.2	185,169	73,135
Total 10 mos.	2,485,075	.....	2;941,120	2,379,055	80.9	.....	.....

* Revised.

New Economy Pumping Machinery

The Economy Pumping Machinery Company, 3431 West 48th Place, Chicago, has just issued three interesting bulletins as follows:

BULLETIN 413. HORIZONTAL AND VERTICAL NON-CLOGGING CENTRIFUGAL PUMP

This bulletin describes a line of pumps which have been particularly designed for pumping water containing solids of all kinds, rags, sticks, stone, stock, scale, etc. They are made in both horizontal and vertical design, in capacities from 100 to 5,000 gallons per minute. They are extensively used in municipal sewage pumping plants and industrial establishments where liquids must be circulated which contain a large percentage of scale, rags, or other solid or refuse matter. They are also used in the food industries for conveying fruit and vegetable pulp, in paper mills for stock pumping, and many other similar applications. The bulletin contains a description of the mechcanical construction, a selection table showing sizes of pumps required for various applications, together with horse power and dimensions.

BULLETIN 414. SMALL MULTI-STAGE CENTRIFUGAL PUMPS.

This bulletin describes a line of small capacity multi-stage pumps for which the manufacturer claims unusually good efficiency. The manufacturer has felt that although a great deal of development has been done on large capacity pumps, there was a demand for dependable high efficiency pumps of capacities below 400 GPM. This catalog describes the attempt of this manufacturer to meet this demand and gives a complete selection table, dimensions and description. The pumps are suitable for boiler feeding, hydraulic press service, hydraulic elevator service, high pressure water supply, etc.

BULLETIN 412. NON-CLOGGING SUMP PUMPS.

These pumps are designed for draining all kinds of sump, refuse pits, etc., where solids may collect with the water. They are used not only in building and municipalities for sewage pumping, but in steel mills, paper mills, food plants and other industrial establishments where pits must be drained of an accumulation of water and solids. The manufacturer has a mechanical design which he claims is superior to that of conventional apparatus for this service. The bulletin shows a complete selection table.

Boston Paper Market Normal

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 16, 1929.—Wholesale paper merchants in this city have been enjoying a normal demand as a whole during the last week, the situation continuing to compare favorably with that of a year ago. The buying, however, is largely hand-to-mouth. The general position of fine paper is apparently good. Kraft is moving well at the same prices which have been prevailing, although some odd lots have been offered at figures below current quotations. There has been considerable stimulation lately in the market for a large quantity of fine wrapping paper and all tissues, ascribed to the holiday season. A sizeable amount of late orders has been coming into the market for these lines.

There has been a seasonal falling-off in the demand for box board this month, although business in November was fairly good. Values are unchanged, although rumors of coming readjustments still persist. Filled news board is quoted at $37.50 to $40 and chip board at $35 to $37.50, both delivered New England points.

Quietness prevails in the paper stock market, but prices are unaltered.

Enlarged Reforestation Program

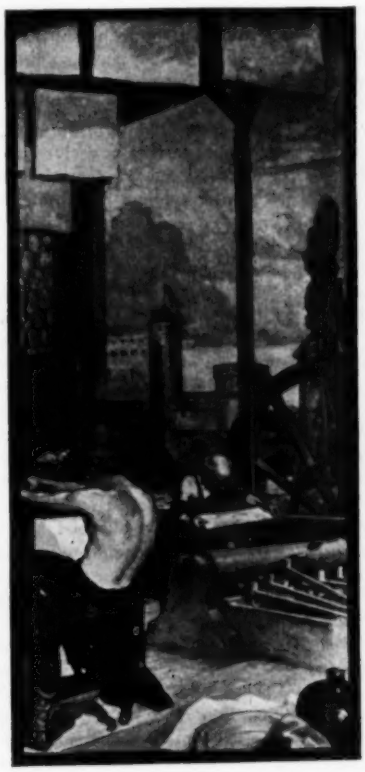
[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N.Y., December 16, 1929—Approximately 20,000 acres of additional land are to be acquired by the state next year as part of the enlarged reforestation program of the State Conservation Commission, according to announcement. In carrying out the proposed extension of the program about $75,000 will be required. Under provision of the Hewitt laws the state is empowered to purchase and plant abandoned farm lands in the state forest areas in order to increase the yearly output of planting stock. Sixty per cent of the land to be purchased this year will require approximately 15,000,000 trees which will be available for the spring and fall planting season.

In connection with the extended reforestation plan the Commission will purchase 5,000 new seed beds with a capacity of 8,000 trees within the next three years. This will add 40,000,000 trees to the present yearly output of the nurseries of 75,000,000 a year. The average price being paid for the newly acquired land is $3 an acre. The law requires that each state reforestation area shall contain not less than 500 contiguous acres and that the average price paid for the land be about $3 an acre.

Murals for New Crown Zellerbach Building

The first paper mill was erected in Germany in 1336, about two centuries after the making of paper was first introduced into Europe with the Moorish invasion of Spain. This first mill, with the huge water wheel turning the crude macerating machine, is pictured by Warren Chase Merritt in the fifth of the historic panels for the Board Room of the Crown Zellerbach Comporation in San Francisco. The painting, which is reproduced here, shows men at working at various processes of paper making in the old mill. This substitution of water power for the pounding of the pulp, formerly done by hand, paved the way for the general use of paper which began its true development after the discovery of printing almost a century later.



TURNING THE MACERATING MACHINE IN THE FIRST PAPER MILL ERECTED IN GERMANY, 1336.

Since then, paper has played an increasingly important part in the world's affairs. The meaning of paper in the advance of civilization is symbolized in the panel which Merritt has painted for the end of the Board Room. In this beautiful mural panel the artist shows the central figure of the Goddess of Paper offering her great gift to the Arts, to Science and Industry. The Arts are shown as three maidens impersonating Painting, Literature and Music. Science is represented by the huge contort at the feet of Paper and Industry is suggested by the interlocked wheels. In the background there is a mill producing paper which shall be carried by land and water to all parts of the world.

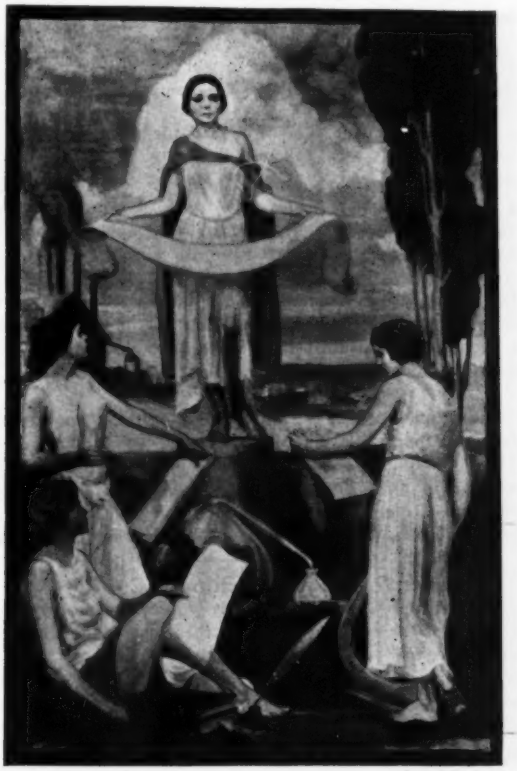
This symbolical panel is the focal point in the series of mural painting for it will stand at one end of the room with the five historical panels on one side and four paintings, showing present-day production of paper, on the other wall. With its gorgeous harmony of color it seems to express the altruistic force that has lived in the industry from the first use of papyrus to that of the present day, with its well equipped mills and the mass production of so many different kinds, sizes, colors and forms of paper.

Paper Importers Abandon Protests

Importers of various paper who had appealed to the United States Customs Court to reverse the rulings of the appraising officers have abandoned their protests and accepted the customs rulings without court hearings in the following cases which have been reported to subscribers to the Import Committee of the American Paper Industry:

Shipments of glassine paper claimed by importers to be dutiable at 30 per cent as wrapping paper held to be dutiable as grease proof paper at 3 cents per pound and 15 per cent.

Importation of book paper claimed by importer to be duty free as standard news print but held by customs officials to be dutiable as printing paper at ¼ cent per pound and 10 per cent



THE GODDESS OF PAPER OFFERING HER GIFT TO THE ARTS, TO SCIENCE AND INDUSTRY.

Coated book paper claimed by importer to be dutiable as printing paper at ¼ cents per pound and 10 per cent but held by customs officials to be dutiable as coated paper at 5 cents per pound and 15 per cent.

Decorated writing paper claimed by importer to be dutiable at 15 per cent as printed paper of foreign authorship, held by customs officials to be dutiable as writing paper at 3 cents per pound and 15 per cent.

Some of recent importations in which importers disagree with the action of the customs officials, cases in which the Import Committee is interested on behalf of the domestic industry follow:

Eight importations of envelopes claimed by importers to be free of duty, but held by customs officials to be dutiable.

Sixteen importations of writing paper held by customs officials to be subject to 10 per cent additional duty above that claimed by the importer, because of special finish.

English laminated mill board claimed by importer to be dutiable as board at 10 per cent but held by customs officials to be dutiable at 30 per cent as liminated board.

New York Trade Jotting

A. C. Skjenneberg, chief engineer of the Union Company, Oslo, Norway, was a recent visitor to the Technical Association headquarters. He sailed from New York for Norway last Friday.

* * *

Alexander Smith, of the Abitibi Power and Paper Company, Ltd., has been attending a conference of the news print manufacturers and the newspaper publishers at the Pennsylvania Hotel, New York.

* * *

Announcement is made that the Unity Paper Mills, of Potsdam, N. Y., will continue operations under their present receivership, and that A. R. Melker, 110 East 42nd street, New York, is to continue as their sales representative.

* * *

Dr. Otto Kress, nationally known chemist and technician, and director of the Institute of Paper Chemistry, now being organized at Lawrence College, Appleton, Wis., spent several days in New York last week.

* * *

Jack Galewitz, president of the Great Atlantic Paper Company, Inc., 77 Wooster street, New York, has purchased all of the white and colored bond paper, mimeograph and ledger, on hand at the Unity Paper Mills, through Bernard Ware, Receiver.

* * *

The regular weekly meetings and luncheons of the New York Division of the Salesmen's Association of the Paper Industry have been suspended until after the holiday season, but will be resumed on January 6 at the Fraternities Club, New York.

* * *

At the annual meeting of the New York Association of Dealers in Paper Mills' Supplies, held last Wednesday, December 11, all the officers who had served during the past year were re-elected. It was announced that the East Ballroom of the Commodore Hotel has been engaged for the annual banquet of the association, which is scheduled for Tuesday, February 18.

Paper & Textile Machinery Co. Sold

A press dispatch dated Sandusky, Ohio, December 6 says, "Sale of all of the common stock of the Paper and Textile Machinery Company of this city to a group of four of the leading paper machinery manufacturers of the United States, was announced today by W. H. Millspaugh, president of the concern.

" 'The business will continue here undoubtedly, and on a large scale, I am sure,' said Mr. Millspaugh, who added that 'the purchasers have been among our best customers.'

"Mr. Millspaugh, an inventor, founded the company about ten years ago to manufacture his inventions.

"The consideration, according to Mr. Millspaugh, is approximately $2,000,000."

Staff Mathematician With Mead Co.

CHILLICOTHE, Ohio, December 16, 1929.—D. S. Davis will join the Wood Pulp and Paper Company here after January 1 as staff mathematician. This is a new position which has just been established by the company and is, so far as known, unique in that the position does not exist in any other company. The management believes that many of the industries' problems are amenable to formal mathematical treatment, particularly through the use of calculus.

A. F. Meisterheim To Buy For Board Mills

KALAMAZOO, Mich., December 16, 1929.—Albert F. Meisterheim, formerly president of the Kalamazoo Trading Company, East Frank street, has severed his connection with that concern and been appointed general mill buyer for eleven large board mills, located in Kalamazoo and vicinity and near Chicago. He has opened an office in the Peoples Gas Building, Michigan avenue.

Woodlands Section Holds Regional Meetings

Regional meetings of the members of the Woodlands Section of the American Paper and Pulp Association have been held in Portland, Maine, Albany, New York and Chicago, Ill., within the past two weeks to initiate the regional studies of pulpwood costs which the Woodlands Section has undertaken. At each meeting Charles W. Boyce, Secretary of the Woodlands Section, explained the purposes of the studies and outlined the procedure to be followed in each region.

This series of studies is being centered about present pulpwood costs and their future trends. Pulpwood costs are becoming increasingly important as the possibilities of using new and cheaper woods for standard types of paper are developed. It is essential that the industry be thoroughly informed concerning the spread in wood costs between regions and between kinds of wood, for it is probable that the over-all spread in wood costs is the largest spread in the manufacture of paper. In order that the industry may have dependable information in so far as it is available concerning this most important competitive factor, the Woodlands Section is devoting its entire energies.

This study is definitely connected with forestry, but a new kind of forestry, an economic variety conceived along business lines. The production of wood for the manufacture of articles of trade that enter in competition must be undertaken along strictly commercial lines. To be successful, forestry must fit into the general economic structure in much the same manner as any other business. The Woodlands Section Study will attempt to analize the factors which enter into the whole question as a basis for individual action.

This study is the first of its kind ever attempted by an American wood-using industry. As such it has an importance that touches every wood-using industry and every forest owner. It should go far in delineating the types of land and the economic conditions essential to private forestry endeavor. And, furthermore, it should indicate definitely along what lines federal and state activities in forestry and fire protection should be directed as they effect the private owner of forest land.

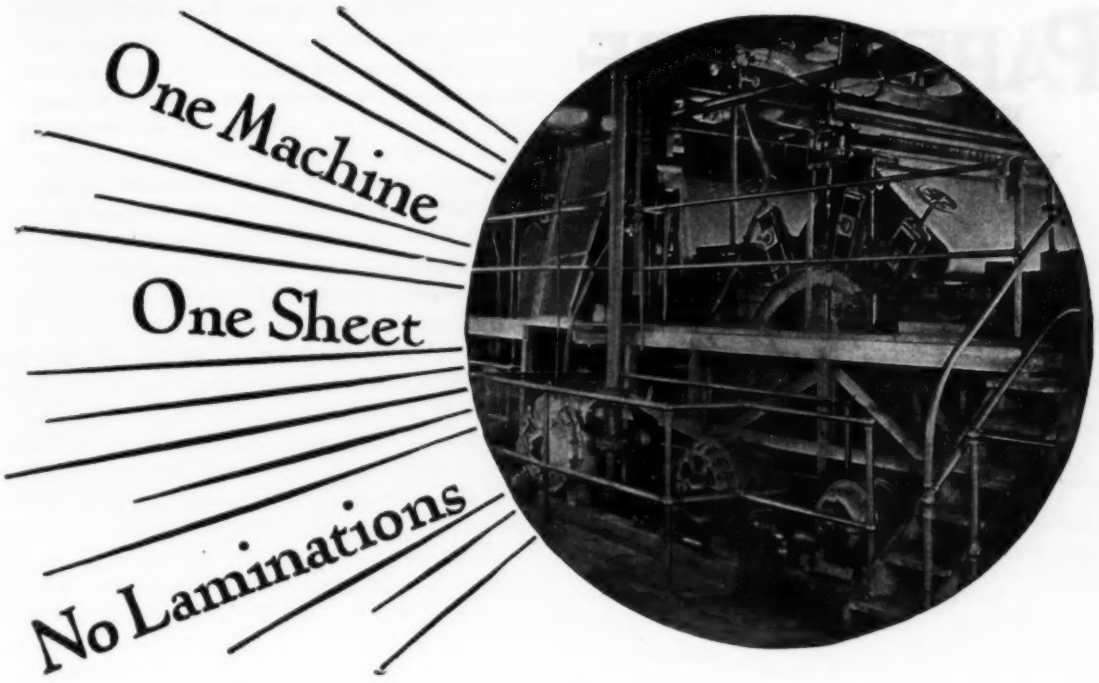
Nationally there is no problem of pulpwood supplies. In certain regions there is a shortage of specific woods for particular kinds of pulp as the price spreads indicate. Regional reallocation of the industry, however, stimulated by regional price spreads, and made possible by technical developments, bids fair to relieve this shortage. The pulpwood problem is, therefore, more a problem of cost spreads rather than supplies.

The regional studies will be under the direction of committees appointed in each region. The committees will prepare preliminary reports to be presented at the annual meeting of the Section in February, 1930. Subsequent studies will be outlined upon the basis of these reports in which the nation-wide effort of the industry will be centralized.

George F. Fowler Dead

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, Mass., December 17, 1929.—George F. Fowler, president and treasurer of the Valley Paper Company, of Holyoke, and founder and president of the Hampden Glazed Paper and Card Company died last week at his home, 39 Ingersoll Grove. He was born in Agawam, the son of George and Mary Anne (Hazen) Fowler. He was educated in the Westfield schools and then went to the Middle West for a time. About 45 years ago with Aaron Bagg and J. C. Parsons he founded the Springfield Glazed Paper and Card Company. Some time later he became interested in the Valley Paper Company and became its treasurer and later its president. He was a director of the Hadley Falls Trust Company of Holyoke. He belonged to many Springfield clubs and was interested in philantropic work in a quiet way. He was a member of the First Congregational Church. Besides his wife, Mrs. N. Jessamine Fowler, he leaves a daughter, Mrs. William Whiting (2d), of Holyoke, and two sons, George H and Edward H. Fowler. The funeral was held Sunday afternoon.



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MERRY CHRISTMAS

The year is rapidly drawing to a close. It is customary at this time to look back mentally and review the past twelve months. They have, on the whole, been fairly satisfactory. There have been no outstanding financial embarrassments and pulp and paper mills have been relatively quite active. Profits, generally, have not been all that could be desired, but in most cases, at least, they compare well with recent years. So as the year closes there is much to be thankful for and there are many reasons why the members of the pulp and paper industry should enjoy this glad season of Christmas. That Christmas this year will be a real merry one so far as all the men and women of the industry are concerned and that the New Year will bring them much additional prosperity and other good things is the earnest wish of the PAPER TRADE JOURNAL.

THE NEWS PRINT SITUATION

Mr. Edward Beck, manager of the Canadian Pulp and Paper Association has issued a statement reviewing the situation in regard to the price of news print which is decidedly interesting. He declares emphatically that the provincial governments of Ontario and Quebec have at no time interested themselves in the establishment of any particular price for news print. What they have interested themselves in, he says, is the distribution of tonnage, so that all the various mills might have an equitable share of the business.

The objections of the Provincial Governments to some plants running full time while others had business for only 40 or 50 per cent of their rated capacity were based, he says, on purely economic grounds. He continues:

"In the first place, the authorities fear that the operation of any of the mills at the maximum rate mentioned above, especially when associated with an abnormally low price for the product, could only lead to extravagant and destructive cutting of pulpwood timber on the limits from which these mills are served. It is the policy of both provinces to place the pulp industry on a sustained yield basis, or, in other words, to ensure that no more wood shall be taken off in a given year than is replaced by growth in the same period; and capacity operation at low prices is incompatible with this policy.

"The second objection relates to the effect of unevenly distributed business upon the population and commercial interests of the large and important communities which have grown up around the news print mills. The closing down or part-time operation of these mills involves unemployment and dislocation of trade which is in no degree compensated for by the increased employment in the busy mills. It is the firm belief of the Provincial governments that the best interests both of their industrial population and of their permanent forest resources will be served by securing an approximately even distribution of the available business among the various plants.

"Owing to the control of the terms of the yearly licenses for the cutting of pulp wood on Crown lands, the Provincial governments are able to exercise a great deal of influence on the conduct of the news print business, and they have admittedly used this influence for the purpose mentioned, namely the equitable distribution of orders. Indeed it is the avowed policy of the two Governments to protect the interests of their forests and their workers in precisely this manner. But this policy has nothing to do with price except insofar as it tends indirectly towards the establishment of a uniform level of prices for the entire output of the Canadian mills, a uniformity which the newspaper publishers have long since recognized as desirable in the interests of their own business and have always demanded.

"Eliminating, therefore, the objection to the new price of news print that it is a Government-fixed price, it remains to consider whether it is a reasonable price in view of current conditions. That it is not as low a price as might be obtained by some publishers for a short time should a cutthroat price war develop within the news print industry is obvious; but the majority of publishers are sensible enough to see that such a war would not be to their permanent benefit.

"Taking it in comparison with prices which have prevailed in the past, it may be pointed out that the proposed rate of $60 (considerably reduced by a five-dollar allowance for the first six months in the case of three-year contracts) compares with $70 and $75 a few years ago, and that few if any of the elements of cost have been reduced in the interval, while some of them are substantially higher. Logging costs have been raised in the great majority of instances by the increasing distance of the standing timber from the mill, which in turn is largely due to the greatly increased demands that are being made upon the forests. Mill labor costs are practically unchanged, and are unlikely to be changed, since they are established by international unions in which United States labor is a preponderant factor, and at the recent economic conferences in Washington it was agreed that no wage-cutting policies should be pursued in the United States for some time to come.

"That present profits in the news print industry are not excessive seems to be strongly suggested by the fact that few of the companies are paying dividends on their common stocks, some of which have been in existence for many years, and not all of them are earning returns of their senior securities. It may be noted also that some of the more prosperous concerns are at present forced to look to their large investments in the very prosperous hydro-electric power industry for their profits rather than to their paper output. It can only be a few years before the consumption

of news print in North America overtakes the present manufacturing capacity, and if the industry is not allowed to get on a profitable basis in that interval it would seem that a serious shortage and another period of peak prices and uncertainty of supply must eventually ensue."

PROPOSED PRICE NOT EXCESSIVE

What Mr. Beck says in the foregoing statement is good sound sense. The proposed new price of news print is not excessive. As compared with the period before the war, labor is decidedly higher and raw materials have in some cases more than doubled in price. News print then was about forty dollars per ton. Newspapers at this time were pretty uniformly selling throughout the country at one cent. Now the common price is two cents and in the case of some evening papers three cents. As compared with before the war prices, it will be seen that the newspapers are still charging an average advance of over one hundred per cent. In most cases in fact they are still getting war time prices although news print paper prices are now only slightly in excess of prices obtained before the war.

This comparison is not made to criticise the present price of newspapers. News print prices, we believe, are low as compared with most other commodities and newspaper prices are mentioned simply to point out an outstanding instance which supports this contention.

As the PAPER TRADE JOURNAL has frequently remarked, news print manufacturers in some respects probably have the most difficult class of customer in the world. Newspapers, obviously, wield great power. This, naturally, should be exercised unselfishly and righteously, but the history of the news print business, unfortunately, shows that it has been frequently abused in respect to this great industry.

The most outstanding example of this is undoubtedly the Taft Reciprocity Fiasco of 1911. This act, time has proven, made a present of the great news print industry of the United States to Canada, just as the PAPER TRADE JOURNAL frequently remarked at the time would happen if news print were put on the free list. The measure, however, owing to the influence of the daily press and in spite of the fact that a president of strong protection sentiment occupied the White House, was passed.

News print prices have been cheaper in consequence, but at the expense of sending the industry across the line. If we recollect correctly only three news print mills have been built in the United States since 1911 when the American newspapers brought about this selfish piece of legislation.

If and when, therefore, Canada some time in the future perhaps takes advantage of her increasing control of the news print business to shape prices selfishly, we are unable to see how the American newspapers will be entitled to much sympathy. However, we are not prepared by any means to admit that this is taking place at the present time. On the contrary, we believe that the proposed advance in the price of news print, judged by every reasonable standard, is fair and we think news print manufacturers will not be displaying good judgment if they are dissuaded from getting it.

A cablegram from Commercial Attache Watson, at Helsingfors states that paper prices in Finland are showing a slightly downward trend. No changes are to be noticed as yet in the pulp market.

Old Bills for Binders Board

[FROM OUR REGULAR CORRESPONDENT]

GREEN ISLAND, N. Y., December 7, 1929.—One million pounds of paper money will be shipped into this village during the coming year to be magically transferred into binders board by the John A. Manning Paper Company. The money as it appears here, however, will not be identified as such but will be a colorless dry pulpy mass in large bales. The Green Island concern has contracted with the Capitol City Refining Company, of Washington, D. C., for the large amount of this raw material. The large size bills now being recalled by the government as they are being replaced by the newer sized currency are treated with caustic soda which removes all trace of ink and coloring leaving the bills with nothing which would identify them as such. Even the little silk identification threads disappear and are massed with the linen threads which go to make up the body of the bill.

After the bills have received this treatment they are turned over to the Washington concern where they are again processed to remove the caustic soda, macreated in a huge machine, baled and then shipped to Green Island. The work in the Washington plant is being done under the supervision of Richard R. Inglis, an official of the Manning Company. The million pounds which will come to this section is only a year's supply for the local plant and represents only about fifteen per cent of the bills which will be destroyed by the government during that time. The remainder will be burned, as no other concern has contracted for their use. The bills are made of the finest one hundred per cent linen and will make excellent stock for the binders board, much of which will be used for book backs. The paper originally was manufactured by the Crane Company, of Dalton, Mass., under a secret process.

Wax Paper Manufacturers Win Case

The Second Class rating for oiled and waxed wrappers, printed, cut into sheets, as adopted by the Classification Committee has been rescinded and the Interstate Commerce Commission have agreed to publish Third Class rating on such printed waxed paper in the next Classification. The scheduled hearing before the I. C. C. at Kalamazoo on December 13 has been cancelled.

The original complaint was entered by the Saniwax Paper Company of Kalamazoo. Last Summer the American Waxed Paper Association, represented by R. N. Beebe, counsel, and Paul S. Hanway, manager, appeared for the association members and others before the Consolidated Classification Committee, at Maplewood, N. H., and argued in favor of this complaint, and submitted a lengthy brief. The Saniwax Paper Company was again heard the week following, before the Western Classification Committee meeting at Chicago.

The savings from the reduction in rates go entirely to the bakers and others using this product since the printed sheets are shipped f.o.b. mill. The waxed paper manufacturers were fortified with the necessary data and facts not available by the baking industry, but probably are not justified in requesting any reparation due to readjustment of rates.

The Saniwax Paper Company Traffic Bureau, of Kalamazoo, the Kalamazoo Vegetable Parchment Company, the American Waxed Paper Association, and others, who carried through the entire affair, are entitled to commendation for success in securing reduced rates.

New Machines for National Paper Products

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., December 7, 1929.—The Lawrence & Hill Machine Company are constructing twelve machines of the Z-Fold type for the Crown-Zellerbach interests for use in the plant of the National Paper Products Company at Carthage. The new equipment will be used in the manufacture of tissue paper. The plant has orders which will insure capacity operations for the next few months at least.

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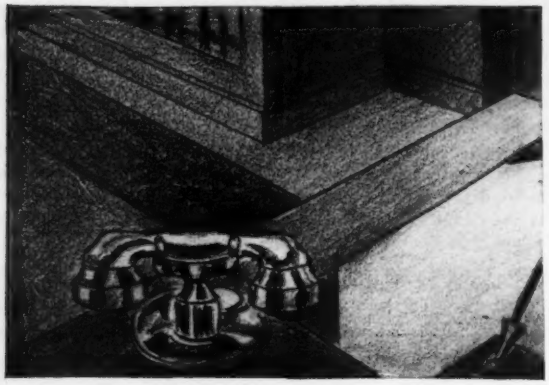

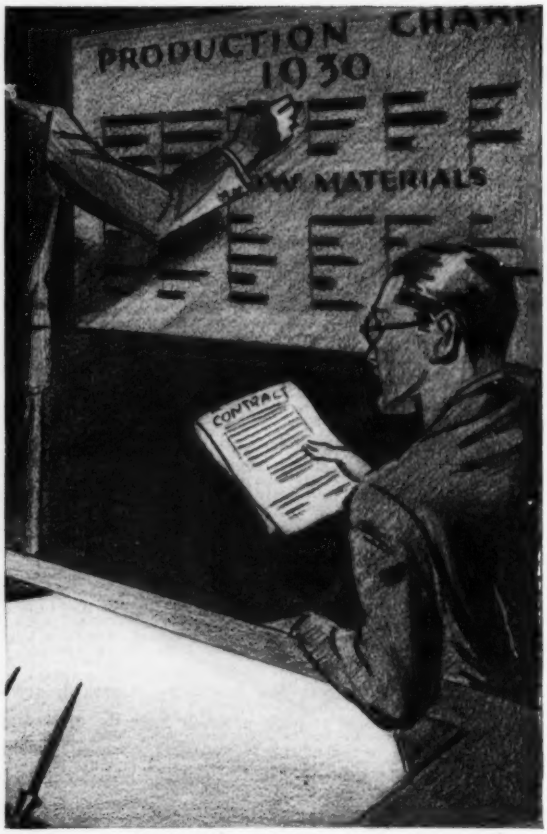

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Edited by
RONALD G. MACDONALD, Secretary

The New Millspaugh Paper Machine

A few weeks ago the Paper and Textile Machinery Company, of Sandusky, Ohio, announced that William H. Millspaugh, president of the company, well known in the industry as the inventor of the Millspaugh suction roll, had perfected a new type of paper making machine which had many features departing quite radically from the construction of present day paper machines.

The company has gone to the trouble and expense of equipping a small paper mill to demonstrate the new machine, which is based on novel applications of vacuum to the formation and drying of the sheet. It is convinced that the machine has now reached a stage of development where it can be put out as a practical paper making proposition, and is inviting inquiries from the industry. In view of the fact that it will soon be put on the market, a description of this machine should be of more than ordinary interest to the industry.

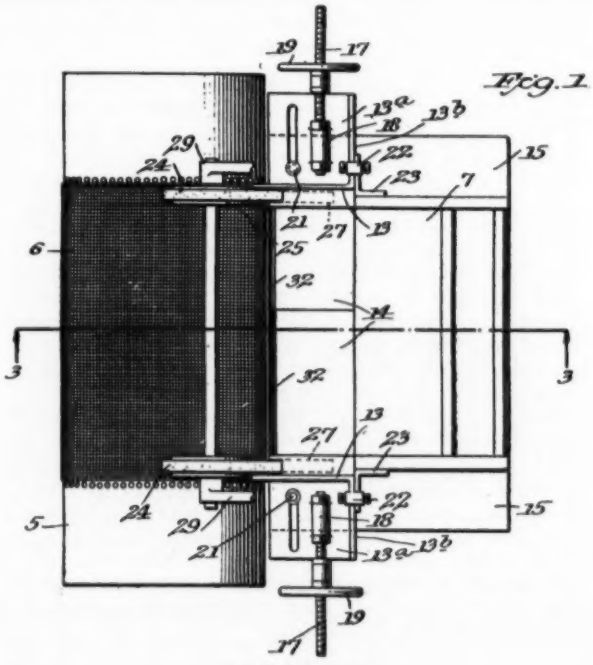


FIG. 1.
Plan View.

The only source of information at present available is in the specifications of the patents which have so far been issued covering this machine. A number of them have already been granted, and some are still pending. The following description is taken from United States patents 1,715,615, of June 4, 1929, 1,718,573 and 1,718,574 of June 25, 1929, and 1,722,503 of July 30, 1929.

Patent No. 1,715,615

In the accompanying drawings, (5) denotes the rotating perforated cylinder of a suction roll of any appropriate construction

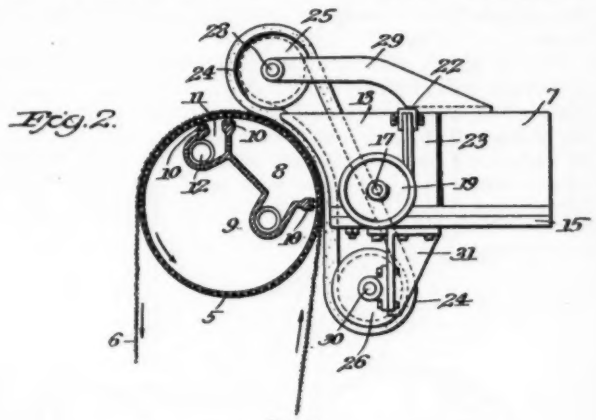


FIG. 2.
Side elevation, with suction roll in cross section.

for maintaining vacuum action on a desired cylindric area. The direction of rotation is indicated by the arrow in Figs. 2 and 3. An endless strainer medium (6), preferably of wire cloth such as the ordinary fourdrinier wire, is entrained upon and driven by the suction roll, providing a paper forming surface on the vacuum-affected area of the roll and also serving to convey the sheet from the roll for delivery to a succeeding section of the paper machine, for instance, a press section.

A body of liquid stock is shown in Fig. 3 bearing on a segment of the cylindrical forming surface provided by the wire cloth traveling on the suction roll. Means for holding the liquid stock being continuously supplied to and maintained at a substantially constant level in the vat by appropriate means.

In the cylinder opposite the stock vat is a vacuum chamber (8) which is provided by a stationary suction box, the open side of which bears against the interior surface of the cylinder. There is also a supplemental vacuum chamber (11), which in this instance is provided as a separate compartment of the same box structure. The suction box packings in contact with the interior surface of the cylinder are indicated at (10). The chamber (8) communicates by the pipe (9) with suitable apparatus for maintaining a substantially uniform vacuum of appropriate degree in

the chamber, so as to effect vacuum-induced formation of the sheet on the wire cloth traveling over the arc of contact with the liquid stock, while drawing off the large volumes of water from the stock. The chamber (11) likewise communicates by the pipe (12) with a suitable vacuum pump for maintaining such vacuum as may be required in that chamber.

Sheet Formation

As the cylinder revolves the wet paper sheet forms under vacuum action on the forming surface as it traverses the arc of contact with the liquid stock, or while exposed to the vacuum chamber (8). This chamber extends a substantial distance above the level of the liquid in the vat (7), so that the wet sheet emerging from the liquid is held intact as formed and undergoes drainage by the continued action of the vacuum. Further drainage and compacting of the sheet takes place as it is carried over the supplemental vacuum chamber (11), the vacuum in which is preferably regulated so as to force uniformly through the sheet such quantities of air as to carry off sufficient moisture to bring the sheet to a desired low moisture condition. Ordinarily, in making a single-ply sheet, a comparatively high vacuum would be maintained in (11) to force the air in large volume through the sheet, so as to reduce the latter to the minimum moisture content permissible by this method and bring it to a condition for effectively withstanding the succeeding pressing or smoothing operation. The amount of moisture reduction, however, may be varied according to various conditions; for instance, the vacuum may be adjusted to bring the sheet to a predetermined moisture content most advantageous for bonding with another sheet or sheets made simultaneously on other suction rolls in the same machine.

The vat (7) is constructed with laterally-adjustable members comprising vertical plates (13) constituting side wall portions of the vat and inwardly-extending bottom members (14) constituting portions of the bottom of the vat. These members are shown as angle structures which, in addition to the side plates (13) and bottom plates (14), are constructed with outwardly-extending bottom plate extensions (13a) and outwardly-extending vertical

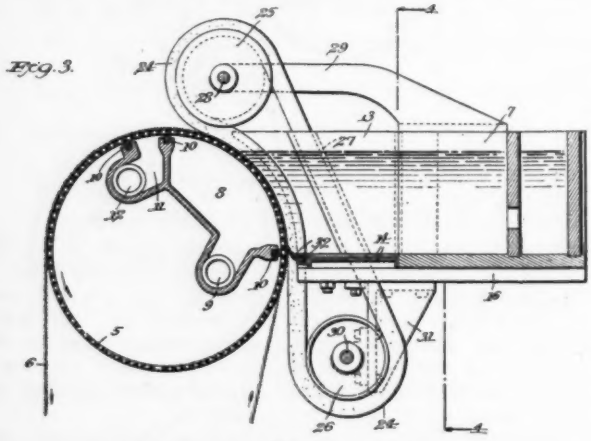


FIG. 3.
Sectional elevation on line 3-3 of Fig. 1.

plates (13b). The bottom plates (14) may overlap, as shown in Figures 3 and 4, thereby providing for adjustment of the vat bottom with adjustment of the side walls. The overlapping bottom plates (14) have their edges adjacent to the cylinder grooved or rabbeted for accommodation of correspondingly overlapping rubber strips (32) (figure 3) which lap the cylinder and aid in preventing leakage of pulp at the bottom of the vat.

The adjustable members are slidably supported on horizontal beams (15) below the vat bottom at either side, and the overlapping bottom plates (14) rest on an intermediate beam (16). The adjusting means are represented by the screws (17), which are non-rotatably secured in brackets (18) on the outer bottom extensions (13a). The screws are threaded through the internally-threaded hubs or nut portions of hand wheels (19), the hubs of which are journalled and retained against endwise movement in bearings carried by the brackets (20). Thus by operating the hand wheels the screws will move the adjustable mem-

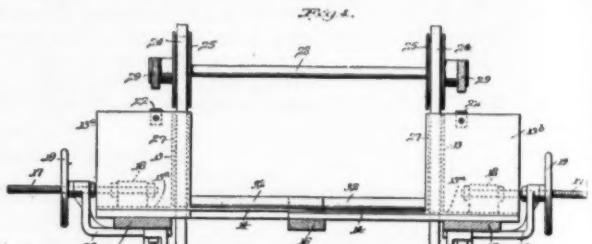


FIG. 4.
Sectional elevation on line 4-4 of Fig. 3.

bers inwardly or outwardly to control the position of the side-wall portions (13) according to the width of sheet to be made. The outward bottom extensions (13a) are secured to the underlying supporting beams (15) by bolts (21) passing through slots in the extensions to permit the desired adjustments (Figure 1). The outer vertical extensions (13b), which fit against co-acting face plates provided by the brackets (23), may be adjustably secured by appropriate means represented by clamps (22).

Deckles

The vertical side plates (13) have concave edges spaced from the forming surface of the cylinder. To confine the liquid stock on this surface, deckles (24) traveling on or with the cylinder co-operate with the side plates to close the spaces between them and the traveling wire. These deckles are endless thick bands of flexible material such as rubber. The deckles travel around pulleys (25) and (26), arranged respectively above and below the vat and so disposed as to entrain the deckles on the forming surface of the roll through an ample arc to confine the liquid. They may either be entrained upon the cylinder under sufficient tension to be driven by the cylinder, or they may be independently driven. The return runs of the deckles pass through inclined guide-passages (27) constructed on the inner sides of the side plates (13).

The upper deckle pulleys (25) are mounted on a shaft (28) journalled in brackets (29) secured to the vat walls. The lower deckle pulleys (26) are mounted on a shaft (30) the bearings for which are adjustably secured to brackets (31) for increasing or decreasing the tension on the deckles. Both sets of pulleys can slide freely on their respective shafts to permit lateral adjustment of the deckles with the adjustment of the plates (13). Preferably, the deckle pulleys are splined to the shafts, particularly if they are driven otherwise than from the cylinder through the contrasting deckle bands themselves.

Patent No. 1,718,573

This patent relates more particularly to the reduction of the moisture content of the sheet prior to the usual drying operation by pressing and passing around heated cylinders, and the method disclosed may even, in some cases, replace one or both of these operations entirely. The principle consists essentially in draining a portion of the water out of the sheet by subjecting it to vacuum and displacing part or all of the remaining moisture in the sheet

by blowing through gases such as air (preferably heated) and steam. The invention can be applied in numerous ways to existing paper machines, a few of which will be briefly described.

Modified Fourdrinier

Fig. 1 shows a longitudinal vertical section of a portion of a modified fourdrinier machine which makes use of the above principle. It comprises an ordinary fourdrinier wire (1), a suction roll (2), a blower roll (3) and a suction couch roll (4). The paper sheet which is being manufactured on the machine is designated by (5), and a guide roll for the upper run of the wire is indicated at (1a), corresponding to the guide roll commonly located in advance of the couch roll of an ordinary fourdrinier machine. The vacuum areas of the suction rolls are indicated at (2a) and (4a), and the vacuum areas are provided by means of internal suction boxes (2b) and (4b), respectively.

The blower roll (3) is adapted for blowing or discharging moisture removing media through or into the sheet as it is carried in contact with the roll. This roll is somewhat similar to a suction roll; it consists of a rotating perforated cylinder enclosing one or more compartments for discharging such media, in this instance three compartments (7), (8) and (9) containing respectively air, steam and hot air, all under pressure. These compartments, connected with suitable sources of supply, are provided by the radial walls and partitions of a box structure (6), which may be supported in the heads of the blower roll and held in contact with the interior surface thereof in the same manner in which the suction box of the Millspaugh suction roll is supported.

The blower roll with its several compartments, in co-operation with the wire, furnishes a simple and convenient means for forcing a number of media into or through the rapidly moving sheet, and to permit successive moisture-reducing operations within a very narrow compass, thus contributing to compactness of the machinery. The making-wire being trained so as to present to the blower roll the opposite side from that engaged by the suction rolls, the sheet is held in contact with the blower roll and effectually supported by the wire while exposed to the pressure in the compartments of the roll, thus protecting the paper from injury by the blasts of air and steam from the roll. To avoid impressions of the blower roll on the paper, the roll may be provided with a wire-cloth covering (3a).

The pressures of the air and steam in the blower roll against

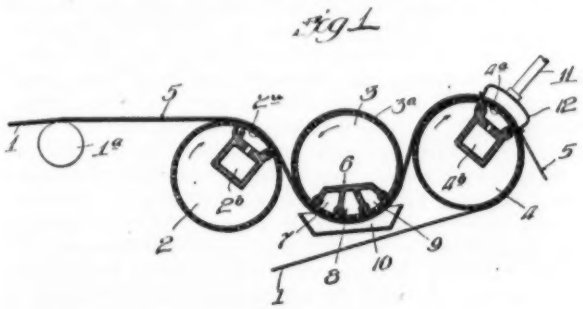


FIG. 1.
Longitudinal vertical section of a modified fourdrinier machine.

the sheet and its supporting wire may be opposed by ordinary atmospheric pressure on the opposite side of the sheet, or may be assisted by partial vacuum or suction applied by appropriate means, such as a suction hood, to draw off the moisture expelled by the sheet. In the machine as represented however, a drip pan (10) is provided under the blower roll to catch water and moisture removed from the sheet as it passes around the roll.

The suction roll (4) at the delivery end of the wire is provided with means for introducing hot air into the sheet, consisting in this instance of a hot air hood (12) enclosing the vacuum area (4a) of the roll and receiving its air supply from pipe (11). Heated air under pressure may be supplied to the chamber (9) of the blower roll and to the hood (12) of the suction roll (4) from a suitable heater, or the air may be heated in the chamber and hood by steam pipes or other suitable means.

Vacuum Requirements

The amount of vacuum and pressures to be maintained respectively in the suction rolls and in the air and steam chambers

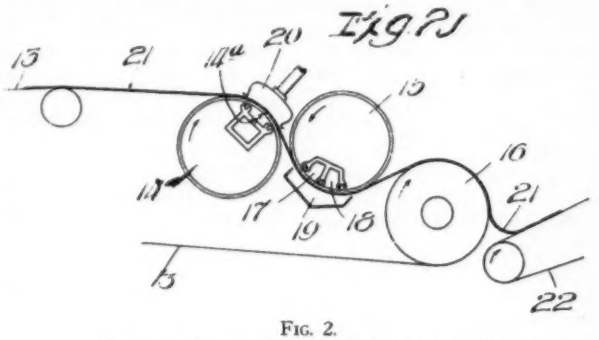


FIG. 2.
Diagrammatic view of a modified fourdrinier machine.

of the blower roll will depend upon particular requirements. For instance, in making thick, heavy or stiff papers, it will generally be desirable to maintain in the suction rolls a comparatively high vacuum, and to maintain in the chambers of the blower roll air pressures as high as practical and steam pressure of 15 to 30 pounds; while in manufacturing medium and lighter grades of paper the vacuum in the suction rolls and pressures in the blower roll would be correspondingly reduced. Again, the relative amounts of vacuum and pressures would depend on the extent of moisture reduction intended to be performed at a particular stage of the process or by the respective agencies as described.

Fig. 2 diagrammatically represents a portion of a fourdrinier machine somewhat similar to that shown in Fig. 1, but differing from it in that the wire (13), after passing over a suction roll (14) and a blower roll (15), returns around a plain couch roll (16). In this instance the blower roll (15) is provided

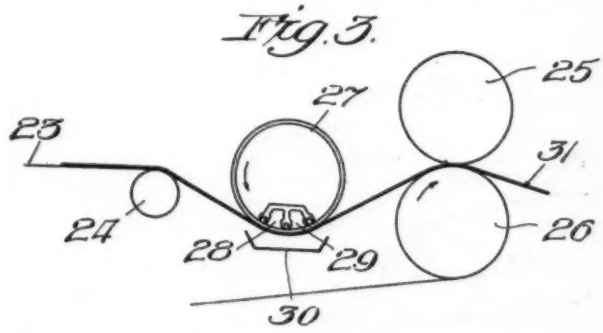


FIG. 3.
Diagrammatic view of a modified fourdrinier machine.

with two compartments, (17) and (18), containing respectively steam and compressed air. A drip pan for catching moisture is indicated at (19). A hood (20) for supplying heated air is associated with the suction roll (14) to permit heated air to be drawn through the sheet in its passage over the vacuum area (14a) of the suction roll. With this machine the sheet undergoes partial reduction of its moisture content on the suction roll (14), and with accompanying introduction of heat in order to increase the temperature of the moisture in the sheet before subjecting it to steam treatment. As the sheet passes under

the blower roll (15), it is successively exposed to the steam and air pressures in the chambers (17) and (18), thereby reducing the sheet to a low moisture content in a heated state, by the action of steam, and removing or reducing such retained moisture by forcing air through the sheet. If the hot air hood (20) is omitted, the sheet is reduced to the desired low moisture content by successively forcing air, steam and air through the sheet, in this instance the first air operation being applied by vacuum. If the air in the chamber (18) be heated, the process exemplifies a method of moisture reduction in the sheet by air, steam and hot air, as already exemplified in the case of the machine shown in Fig. 1. The paper sheet (21) delivered from the wire at the roll (16) may be transferred to a felt (22) to convey the sheet through one or more presses before final drying.

Fig. 3 represents a portion of an ordinary fourdrinier machine, the conventional parts of which are the wire (23), its guide roll (24) and couch rolls (25) and (26). In this instance a blower roll (27), having steam and air compartments (28) and (29), is interposed between the guide roll and the couch rolls. A drip pan (30) is provided under these compartments. With this machine, the sheet while on the wire is reduced to a suitable state for passing through the couch rolls without injurious crushing effect by forcing steam and air successively through it as it passes under the blower roll, the air being preferably heated.

Such an arrangement may advantageously be employed in ordinary fourdrinier machines, either for reducing the sheet to condition for final drying or for effecting a desired stage of the reduction of its moisture content before the sheet (31) passes through the couch rolls and is delivered to subsequent moisture-reducing means. In making light papers with the machine shown in Fig. 3, exposure of the sheet to comparatively low steam and air pressures in the chambers of the blower roll would reduce it to sufficient compactness and dryness for immediate drying after leaving the couch rolls.

Fig. 4 represents the delivery and portion of a fourdrinier wire (32) passing around a suction couch roll (33), and transferring the sheet (34) to a press felt (35) which conveys the sheet by the steam and air chambers (36) and (37) of the blower roll (38), and subsequently carries the sheet between press rolls (39) and (40), the lower roll (40) being a suction roll having its vacuum area (40a) in proximity to the nip of the press for

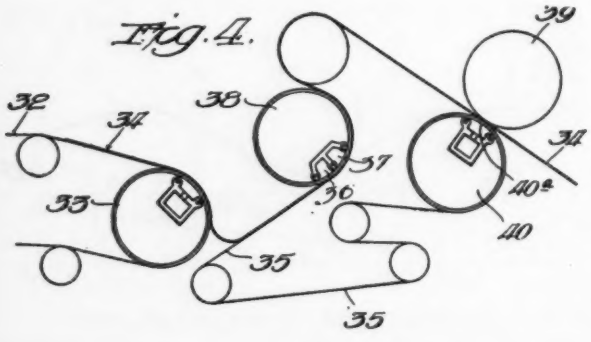


FIG. 4.

Diagrammatic view of a modified fourdrinier machine.

the purpose of driving the felt and extracting moisture which may have been absorbed by the felt at the blower roll (38) or in the press, as well as additionally forcing air through the paper in its passage between the rolls. In this arrangement, it is in the press section that the sheet undergoes the desired moisture reduction by steam and air before passing through the press.

Cylinder Machine

Fig. 5 illustrates a paper machine of the cylinder type, the conventional illustrated parts of which are the pulp vats (41), the forming mold or cylinder (42), the couch roll (43), and the endless felt (44), which passes around guide rolls (45) and which takes the sheet from the forming roll before it passes through the presses. In this machine the felt carries the paper under the steam and air chambers (46) and (47) of a blower roll (48), and thence through suction press rolls (49)

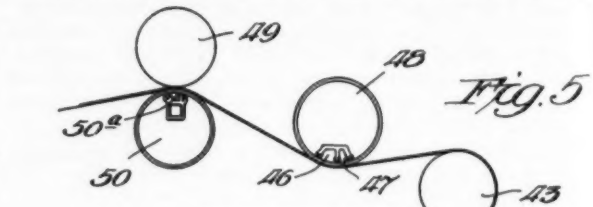


FIG. 5.

Diagrammatic side view of a cylinder machine to which the invention has been applied.

and (50), from which the paper may be passed through additional presses if desired, or delivered immediately to the dryers. In this case, as in that of the machine illustrated in the preceding figure, the felt is dried and air is forced through the sheet and felt in passing through the nip of the press by the action of the vacuum in the suction roll (50), the vacuum area of which is indicated at (50a).

Patent No. 1,718,574

This patent, and also the one to be described subsequently, relates more particularly to the production of laminated or multiple-ply paper.

The numerals (3), (4), (5), (6), (7) and (8) denote the rotating perforated cylinders of a number of suction rolls. Endless travelling wire cloths, such as ordinary fourdrinier wires, (9), (10), (11), (12), (13) and (14) are entrained about the respective cylinders and driven thereby, these wires providing forming surfaces on the cylinders and serving to convey the sheets from the cylinders to succeeding elements. The cylinders are arranged in oppositely rotating pairs, so that their upper surfaces move towards each other, and the wires passing around the respective pairs of cylinders are trained to converge and bring the sheets formed by the respective pairs of cylinders together with one another. A pair of such cylinders, as (5)-(6) and (7)-(8), is shown arranged above each of the cylinders of the pair (3)-(4), while the wires associated with the upper pairs are arranged to deliver the contacting sheets produced by such pairs into the respective lower cylinders.

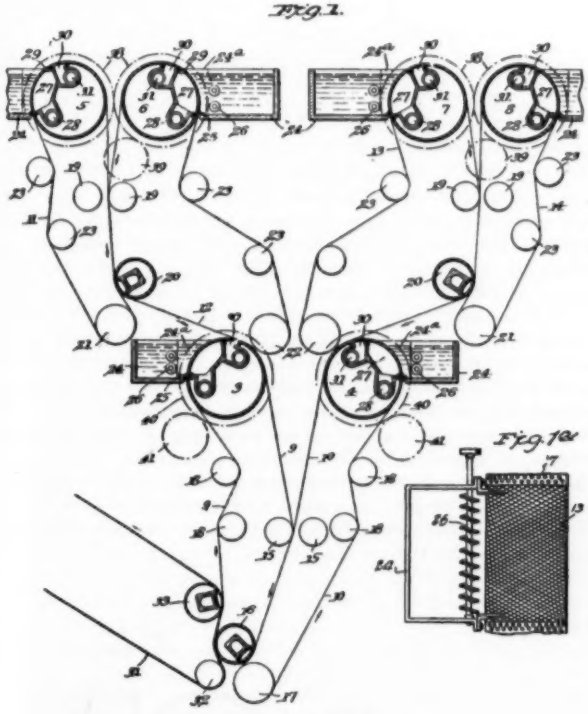
Referring to the lower pair of cylinders (3)-(4), it will be observed that the converging sheet-carrying runs of their wires (9) and (10), which carry the wet sheets formed on the cylinders into contact with each other, are trained against and deflected by one of the squeeze rolls (15), which rolls may or may not be adjusted to exert pressure on the co-acting runs of the wires and intervening paper sheets according to particular requirements depending on the character of the paper being made and other conditions. Adjusting means for these squeeze rolls are shown in Fig. 2. From the roll (15) on which the wires are trained, the runs of the wires travel to and partially around or in engagement with a transfer roll (16), which also serves as a bottom

guide roll for the wire (9), while the wire (10) is passed around a bottom guide roll (17). Guiding and tensioning rolls (18) are also provided for each of these wires.

The wires associated with each of the upper pairs of cylinders likewise have converging runs to bring the sheets formed on these cylinders into contact, and each pair of upper wires, (11)-(12) and (13)-(14), is trained against and deflected by one of a pair of squeeze rolls (19), which, like the rolls (15), may be adjusted for pressure when conditions require. The co-acting runs of each set of wires (11)-(12) and (13)-(14) pass together from the deflecting roll (19) and to and in engagement with a transfer roll (20) serving as a guide roll for one of the wires of each pair, while the other wire of each pair is passed around a guide roll (21). Guiding and tensioning rolls for the several upper wires are indicated at (22) and (23).

The wire (12) passes from the roll (20) to and in engagement with the cylinder (3), so that the paper sheets continously made on the upper cylinders (5) and (6), being brought together by the wires (11) and (12) and being transferred at the roll (20) to the wire (12), are carried thereby and applied to the wire (9) on the cylinder (3) or to the sheet made on the latter cylinder. Similarly, the wire (13) runs from its associated transfer roll (20) to an in engagement with the cylinder (4).

Additional forming cylinders may be incorporated in the machine, for instance by superstructural arrangement of such additional cylinders and parts with respect to either or both of the pairs of cylinders (5)-(6) and (7)-(8) similarly to the arrangement shown with respect to the lowermost cylinders (3) and (4); and such arrangement may be further carried out with respect to successive pairs of cylinders, so as to include any desired number of forming surfaces.



FIGS. 1 AND 1a.

Fig. 1.—Diagrammatic sectional elevation of a machine for producing six-ply paper. Fig. 1 a.—Plan view of part of the machine showing the screw agitators.

The equipment for and method of forming the sheets on the several cylinders are essentially the same as described above in connection with patent 1,715,615, except that no deckles are provided, the narrow crevices between the cylindrical forming surfaces and the curved edges of the side walls of the vats being left open to the atmosphere and the pulp being prevented from leaking out through these crevices by the vacuum maintained in the cylinders. Agitators (26) may be provided in some or all of the vats to keep the stock agitated and to obtain a criss-cross disposition of the fibers during the formation of the sheet and prevent their alinement in the direction of rotation of the cylinders. These agitators consist of rotary screws or spiraled blades disposed parallel with the cylinders. A pair of oppositely spiraled agitators is preferably provided for each vat close to the moving cylindrical forming surface, so as to effectually keep the fibers in a state of agitation close to the forming surface as they are drawn upon it. In making a cross-grained laminated or multiple-ply paper, the sheets or plies may be formed with the grain of the fibers in alternate merging sheets running at angles or substantially at right angles to each other, the liquid stock bearing on certain of the forming surfaces for such purpose being agitated to move across the forming surface in a given direction, while the stock bearing on certain other of the surfaces may be agitated to move in an opposite direction or may be left quiet.

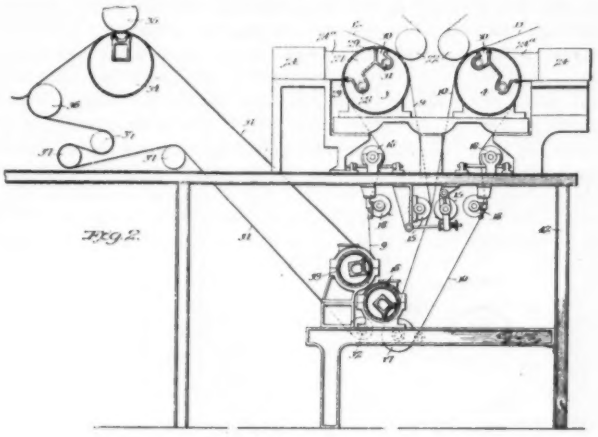


FIG. 2.

Diagrammatic sectional elevation of a machine for making duplex paper.

Multiple Ply Papers

In the production of duplex or other multiple-ply paper, involving the uniting of separate wet sheets, the sheets to be united should carry a certain amount of water for bonding purposes, the amount requisite or most advantageous in any given case being dependent on specific conditions as to the stock and its preparation, and to some extent upon the treatment to which the merged sheets are to be subjected. If the separate sheets are left too wet, while they will bond easily with the excess of water carried, difficulties will arise through crushing of the wet sheets if sufficient pressure be applied to make the perfect bond required. On the other hand, if too much water be withdrawn from the paper, then the bonding is likely to be imperfect and the layers of the product will be liable to separate. It is therefore important to regulate the moisture content of the sheets in accordance with bonding requirements. In the present instance, this regulation is obtained by suitable adjustment of the vacuum in the boxes (30) of the suction rolls on which the sheets are formed, while the vacuum in the boxes (27) is adjusted to obtain proper formation of the sheets.

Fig. 2 shows a machine which, without the wires (12) and (13) and other superposed associated parts, may be used for making duplex paper, its operation being readily understood from the above description of the production of multiple-ply paper.

Patent No. 1,722,503

According to this patent, in duplex or multiple-ply sheets

made as just described, the bonding of the several plies is rendered more efficient and complete by passing the built-up sheet around a blow roll which forces one or more media, such as air, hot air, exhaust, live or superheated steam, through the sheet, which action has the added effect of removing part of the remaining moisture from the sheet and heating the latter, thus preparing it for the final drying treatment and reducing the steam consumption required for drying.

In Fig. 1 the blower roll is shown at (13), and an adjustable guide roll (17) co-operates with it to hold the wires and intervening sheets firmly against the blow roll. The pressure applied through the roll (17) may be adjusted as required. In many cases, particularly with light weight papers or material permeable by a medium under moderate pressure, it is sufficient to train the wires in engagement with the blow roll in the manner indicated in Fig. 3. In other cases, where the medium discharges from the blow roll under greater pressure, or where the mechanical arrangement would render it otherwise difficult to obtain the desired arc of engagement of the wires with the blow roll, it is advantageous to employ one or more guide rolls, as (17), to co-operate with the blow roll to hold the wires and intervening

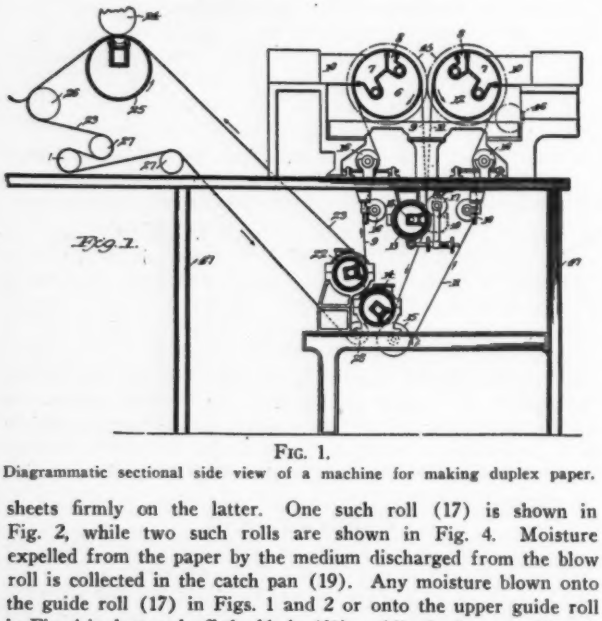


FIG. 1.
Diagrammatic sectional side view of a machine for making duplex paper.

sheets firmly on the latter. One such roll (17) is shown in Fig. 2, while two such rolls are shown in Fig. 4. Moisture expelled from the paper by the medium discharged from the blow roll is collected in the catch pan (19). Any moisture blown onto the guide roll (17) in Figs. 1 and 2 or onto the upper guide roll in Fig. 4 is doctored off the blade (21); while the lower guide roll in Fig. 4 is so located that it will not take up the discharging moisture and return it to the wires.

The suction roll (14) in Fig. 1 is used as a transfer roll and

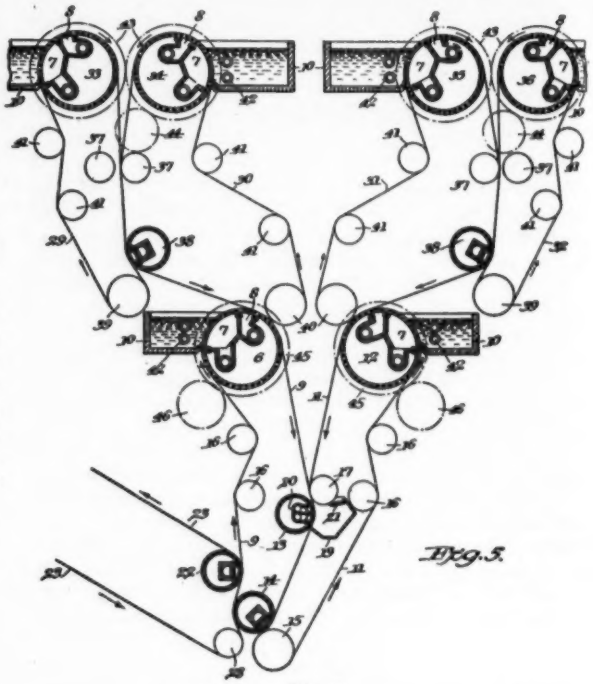


FIG. 5.
Diagrammatic sectional elevation of a machine for making multiple-ply paper.

for that purpose has its suction box arranged to act on the composite web as the latter passes over the roll and transfers the web onto the wire (9), or prevents it from following the roll (15). From the wire (9) the composite web is transferred by a suction transfer roll (22) onto a press felt (23). The felt (23) passes through a press represented as comprising a squeeze roll (24) and co-acting suction roll (25) the vacuum chamber of which acts at the nip of the rolls. The felt at its delivery end, where the web is taken from the felt and delivered to dryers or to a succeeding part of the machine (not shown), is passed around a guide roll (26) and its return run is guided or tensioned by the rolls (27). A guide-roll (28) guides the felt under the transfer roll (22). One or more press sections may be used for smoothing purposes or for completing the bonding of the plies where the latter have been only partially bonded between the co-acting runs of the wires (9) and (11).

Fig. 5 shows a similar arrangement suitable for the manufacture of a sheet of up to six plies; and by means of additional similar parts sheets built up of any desired number of plies can be made.—A. P.-C.

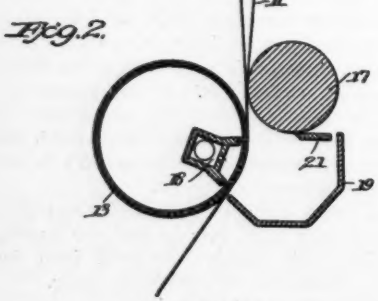


FIG. 2.
Detail sectional view of a portion of the machine shown in Fig. 1.

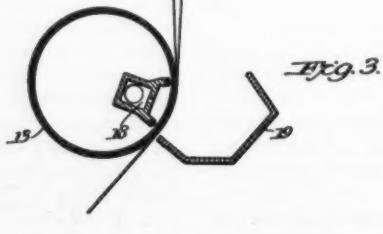


FIG. 3.
View corresponding to Fig. 2, omitting the guide roll.

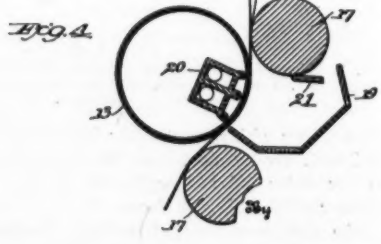


FIG. 4.
View corresponding to Fig. 2, showing two guide rolls.

Effect of Large Boilers at High Capacities on Operating Characteristics and Investment in Boiler Plants

By Frank S. Clark[1]

This paper treats of the various factors that enter into the design of boiler plants, their effect on investment costs and on operating characteristics. It traces the development of the boiler plant from a number of small units operated at moderate capacities to the present plant of a few large units run at high rates of evaporation. It gives the conditions that limit the sizes and output and shows how, as the demand for larger units increases, these conditions have been overcome. The paper shows the effect of large units in reducing the sizes of buildings to house them, and the number of auxiliary equipment to serve them. It shows the effect of reliability of equipment on increased service factor, with consequent reduced necessity for spare equipment. It states that the governing factors in investment costs for a given condition are the size of the unit and the output obtainable, the former depending on the ability to manufacture, and the latter on the fuel that can be burned in the furnace and the ability of the unit to absorb the heat. Further, it discusses the proportioning of heat-absorbing surfaces between boiler, economizer, and air preheater to obtain the most economic result at minimum cost, and also the effect on operation of large units run at high capacity, and in turn their effect on labor and maintenance cost. The paper concludes with a table giving an analysis for a given condition of the installation of boiler plant containing different numbers of different sizes of boilers.

In these days when attention is being centralized on anything and everything that affects the cost of design and construction of a steam power station or a boiler plant, with a view to keeping investments down to an economical minimum, it is proper and timely that the steam-generating plant should be made the subject of analysis. The chief item of equipment in such a plant is, of course, the boiler or steam-generating unit, but of importance also, and affecting the size, capacity, and type of the unit, are the fuel-burning equipment and the other heat-absorbing units installed.

The trend of steam-generating equipment, like that of electric generators, has been toward increased size and output and has followed the development of the industry. Limitations other than the ability of the boiler to generate steam held the sizes down, and at about the time of the introduction of the steam turbine there were a number of boilers serving one unit. This frequently necessitated the placing of the boiler-firing aisles at right angles to the axis of the electric-generating room, thus dividing the boiler-operating room into a number of separate operating aisles. In congested city districts it was necessary even to resort to double decking or placing boilers on two floors, one above the other, and in at least one station of this period the boilers were arranged on three different floors. The congestion of equipment, complications of installation, and difficulties of operation due to such conditions are apparent.

This situation was brought about largely by conditions other than the ability of boilers to produce steam at a high rate of generation. Inability of combustion facilities to burn the fuel in sufficient quantities, and of the furnace walls to withstand the punishment due to high rates of combustion, limited the capacity of boilers. Impure feedwater and the maintenance of grates and walls required frequent outages for cleaning and repairs, thus increasing the number of boilers necessary to insure reliability of operation.

The advent of the mechanical stoker for coal, and of the mechanical-atomizing oil burner, bringing with them the use of forced draft, increased the fuel-burning ability, and placed the limitation of capacity on the ability of solid refractory furnace walls to withstand the punishment incident to high rates of combustion. To offset this limitation, first the air-cooled and then the water-cooled furnace was developed. Added momentum to increased rates of evaporation has been given by the use of pulverized coal. Greater service reliability has accompanied these developments, increasing the period of continuous high-capacity operation until service factors exceeding 90 per cent have been attained by a number of large boiler installations, which is comparable to the service obtained from large turbine generators. This has reduced the necessity for spare steam-generating equipment to a point where it is possible to design a plant with a single boiler serving one turbine-generating unit, or with no greater reserve in boiler plant than in turbine plant.

With the removal of the restrictions other than those imposed by the steam generator itself, and with the increasing capacities of plants and of individual units, there have followed demands for boilers of larger and larger steam-generating capacities, until at the present time there are in operation in this country a number of boilers with steaming capacities of over 400,000 lb. per hr. each, with some few on order or being erected whose output will be upward of 800,000 lb. per hr. This increase in steam capacities has been accompanied by increases in steam pressure and temperature which, with greater efficiency of steam utilization, have decreased greatly the amount of steam required per kilowatt-hour of electrical energy produced.

For a given condition investment costs for a boiler plant are determined largely by two considerations: size of individual steam-generating units, and output obtainable from each unit. The first has as its maximum limit the ability of the manufacturer to produce the unit, and as a governing limit the relation of the individual units to the plant as a whole, to the charactertistics of load, and to the spare units deemed necessary to provide reliable and continuous operation. The second is governed by the fuel that can be burned in the furnace, and the ability of the unit to absorb heat for the production of the steam.

The size and number of boilers affect the cost, not only of these units themselves, but of the equipment that goes with them and of the building that houses them. For a given output the percentage of building space devoted to aisles and firing floors decreases appreciably with increase of size of boilers, affecting materially the area of the building and its cubic contents, with consequent influence on the cost of the structure. Supporting steel and its foundations likewise become less costly as sizes of boilers increase and their numbers decrease. Piping for both steam and water becomes large in size, but of less number of parts, resulting in simplification in arrangement and reduction in cost. Equipment for fuel handling and burning is similarly af-

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Note: Statements and opinions advanced in papers are to be understood as individual expressions of their authors, and not those of the Society.

fected. Setting walls have less area per unit of furnace volume as the sizes of combustion spaces increase, and this has a marked effect on the cost of the installation. Boilers themselves are less expensive per unit of output as their sizes increase. Fans, flues, economizers, air heaters, and other auxiliary equipment are reduced in unit cost with increase in capacity and decrease in number.

TABLE 1
BUILDING AREAS AND INVESTMENT COSTS OF BOILER PLANTS

Number of boilers	4	6	8	12
Sections per boiler	60	40	30	20
Relative building area, per cent	100.00	112.00	127.00	133.00
Relative investment cost, per cent	100.00	112.00	124.00	142.00
Proportional cost of main items of construction and equipment:				
Buildings and foundations	16.10	16.50	16.70	17.10
Boilers, superheaters, settings, etc.	32.00	33.00	34.60	38.00
Draft and feedwater systems	22.40	22.40	22.00	19.80
Piping	9.60	9.50	9.20	9.00
Fuel and ash handling	7.60	7.40	7.20	6.70
Fuel preparation	9.60	8.60	7.90	7.00
Auxiliaries	2.70	2.60	2.40	2.40
Totals	100.00	100.00	100.00	100.00

To illustrate these statements Table 1 has been prepared which gives a comparison of building areas and investment costs of boiler plants designed for a given steam output and pressure, but with different numbers of steam-generating units installed. The table also gives the proportional costs of main items of construction and equipment, indicating the relation of each item to the total cost. In this comparison are prorated so-called overhead costs, which include in each case an item to cover possible contingencies. The estimates are comparable as to scope and hold good for the case assumed, but many vary somewhat for a similar analysis of a different set of conditions.

With small boiler units, low construction costs, low steam pressure, operation at moderate rates of output, and with fuel not so important an item of production cost as it is at present, the boiler plant of fifteen years ago consisted usually of the boiler as the only piece of heat-absorbing equipment. The required draft was produced by a stack of reasonable height. No other equipment except possibly a superheater to give a moderate steam temperature was necessary to gain the desired efficiency. With present-day sizes and capacities, the situation becomes much more complex. The problem now is not solely one of absorbing the heat of combustion, but of the manner in which this is to be done and by what media. Higher steam pressures have raised the temperatures of gases leaving the boiler, as have the higher outputs, and additional equipment has become necessary to recover the heat in the gases, which has brought about extensive use of the economizer and the air heater for these purposes. Within the limits imposed by their operating characteristics, the selection of a size and arrangement of heating surface for each type of equipment must be such as will give the desired overall results for a minimum of cost.

Limitations to size of individual units would appear to be the length of drum or drums which it is possible to manufacture and to support properly. For the riveted type, which can be used for pressures up to 700 pounds, it is possible to obtain drums accommodating sixty 4-in. tubes spaced 7¾ inches between centers with only end suspensions necessary, giving a furnace width of about 39 feet. For pressures involving the use of forged drums, the limit is the size of the ingot from which the drum is forged. At present this would allow a furnace width of about 43 feet. On account of the thickness of the drum shell the suspension is not a serious problem.

With these sizes and the ability to burn the necessary amounts of fuel under them, outputs of more than 500,000 pounds of steam per hour are obtainable from the so-called standard types of boiler. By combining two of these units with one furnace much greater capacities can be obtained, with consequent saving in space occupied and in investment cost.

The limits to the capacity that is obtainable are the fuels it is possible to burn in the furnace, and the ability to maintain proper circulation of water and to deliver the steam without accompaniment of excessive moisture. In general, it may be said that surfaces can be provided to absorb all the heat that can be liberated in a given furnace, and that present designs can recover economically. It therefore becomes a question, of method of fuel burning. Fuel burned in suspension as gas, oil, or pulverized coal permits the use of highly preheated air, of ready and easy regulation of combustion through control of air and fuel to each regulation of efficient utilization of the whole furnace volume. The burning of coal on a grate involves the problem of supplying and regulating a fuel bed of large proportions, together with an air supply at proper pressures and in sufficient quantities to all parts of the bed. This type of combustion equipment also affects the proportioning of heat-absorbing surfaces by the necessity of limiting the preheating of the air to a temperature which will not cause binding of moving parts of the grate or burning of the parts themselves. With both these methods of firing there arises the serious problem of limitation and loss of capacity at high rates of combustion due to clogging of the passages around the tubes by molten ash carried by the gases freezing to the tubes.

It has been stated that the availability for service of large boiler units has become as high as that of the turbine units which they serve. For purposes of reliability and also to take care of variations in load, auxiliary equipment serving the turbine is practically always in duplicate. For the same reasons and also because of practical limitations of sizes obtainable, mechanical-draft equipment is being duplicated in the case of large boilers.

Decrease in number of units means less equipment to operate and maintain, consequently labor and maintenance costs decrease and the use of an adequate number of indicating and recording instruments properly placed with their dials and charts congregated so as to give at one point an indication of the performance of a boiler unit and its auxiliaries, are a further aid to decreased operating labor and increased efficiency of operation. While the use of automatic control can be overdone, in general some degree of such control is essential to the realization of the full operating possibilities of large boiler units, and to the reduction of operating labor to a minimum.

New TAPPI Members

H. A. Boles, superintendent, Strathmore Paper Company, Woronoco, Mass.

L. K. Burnett, paper technologist, Robert Gair Company, Thames River Division, New London, Conn.

W. G. Cuttle, resident engineer, Ste. Anne Paper Company, Ltd., Beaupre, P. Q.

G. L. Doerr, director papermaking division, I. G. Farbenindustrie A. G., Ludwigshafen a/Rhine, Germany.

Edmund Getty, coating mill technician, West Virginia Pulp and Paper Company, Piedmont, W. Va.

Kurt Hess, professor, Kaiser-Wilhelm Institute fur Chemie, Berlin- Dahlem, Germany.

L. E. Hill, bleach liquor foreman, Grays Harbor Pulp and Paper Company, Hoquiam, Wash.

C. J. Johnson, chemist, Container Corporation of America, Manayunk, Pa.

D. G. Moon, consulting engineer, Continental Paper and Bag Corporation, New York, N. Y.

T. J. O'Reilly, ground wood superintendent, Canada Power and Paper Company, Cap de la Madeleine, P. Q.

H. E. Patterson, chemist, Container Corporation of America, 111 W. Washington Street, Chicago, Ill.

R. H. Scanlon, assistant resident manager, Powell River Company, Powell River, B. C.

V. P. Thorpe, pulp tester, British Columbia Pulp and Paper Company, Port Alice, B. C.

Egmont Wennberg, chemist, Bureau of Tests, International Paper Company, Glens Falls, N. Y.

A. J. Wildman, Jr., chemical engineer, Beckett Paper Company, Hamilton, Ohio.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Straw Pulp and Paper. C. H. Dedrick assignor to Philadelphia Quartz Company. U. S. pat. 1,682,834, Sept. 4, 1928.—In preparing pulp from straw, the material is cooked with sodium silicate, beaten with cooking liquor and then sized.—A. P.-C.

Preparation of Cellulose. P. J. Maignen. U. S. pat. 1,672,895, June 12, 1928.—Raw plant material such as straw, grasses, wood or pine needles, is subjected to the progressive action of a solution of caustic soda generated in the cooker used from sodium carbonate and calcium hydroxide in water, at atmospheric pressure. The cellulose produced may be used for making paper, and the solution of non-cellulosic substances may be used as a fertilizer.—A. P.-C.

Alkali Pulp. G. A. Richter assignor to Brown Company. Can. pat. 280,726, June 5, 1928. To produce a fiber high in alpha-cellulose a kraft pulp is washed and separated from the black liquor, screened and thickened with liquor containing alkaline compounds. The thickened pulp is mixed with a solution of caustic soda (between a maximum concentration at which mercerization takes place and a minimum concentration at which purification of the pulp is not effected) or other alkaline compounds and treated at 30° C. to permit the alkaline solutions to remove non-alpha-cellulose.—A. P.-C.

Wood Pulping Process. L. Bradley and E. P. McKeefe, assignors to The Bradley-McKeefe Corp. Can. pats. 281,105, June 19, 1928, and 281,285, June 26, 1928. *No. 281,105*—Wood is treated with a liquor containing 6.5 to 10 parts of sodium sulphite to 0.5 to 2 parts of sodium carbonate. *No. 281,285* O Wood is cooked under pressure at an elevated temperature with a liquor containing 40 to 60 g. per liter of caustic soda, 10 to 30 g. per liter of sodium thiosulphate and 15 to 45 g. per liter of sodium sulphide. The total soda content of the liquor is at least 12 per cent on the bone dry weight of wood cooked.—A. P.-C.

Extraction of Cellulose. Societe Francaise des Celluloses "Barbou et Cie." Fr. pat. 634,402, Sept. 14, 1926. —In a process for cooking cellulosic material with sodium sulphite, fresh sodium sulphite is added to the waste liquor and this is used again until a strength of about 20 deg. Baume is reached, when it becomes economical to recover the organic matter and sodium sulphate contained therein.—A. P.-C.

Alkaline Pulping Process. D. R. Nanji. U. S. pat. 1,679,441, Aug. 7, 1928.—Woody or other cellulosic material is heated with a solution containing up to 4 per cent of an alkali such as caustic soda at high temperature and under a pressure of about 10 atmospheres for about half an hour. Impure cellulose pulps, bagasse from sugar cane, grasses and the like may be similarly treated and be preliminarily crushed and treated with dilute sulphuric acid under pressure.—A. P.-C.

Beater. S. Milne. U. S. pat. 1,662,466, Mar. 13, 1928. The main feature of the invention is an improved arrangement and combination of the bedplate, backfall, beater roll supporting means, and beater cover. Other features are means for causing the pulp which is thrown off by the ends of the roll to pass over the periphery of the roll, and means for preventing the pulp passing between the ends of the roll and the cover from the side next the backfall. A further feature is an improved shape of tub and improved means for circulating and mixing the pulp in the tub. The midfeather is not placed in the center of the tub, but to one side, so that the channel in which the roll is placed is wider than the other, thus speeding up the circulation of the stock. The bedplate extends from the vertical plane passing through the axis of the roll to a point where the tangential portion of the backfall commences, and extends through an arc of about 75°. The backfall lies close to the roll and extends to height of about one-half the radius of the roll above the axis of the latter, and the front face is formed in a straight line tangent to the roll and at an angle of about 15° to the vertical. The roll is mounted so as to move towards and away from the bedplate in a diagonal path thus always adapting itself to the bedplate; and with the bedplate arranged to come up to the backfall and the backfall tangential to the same and close to the beater roll, the pulp does not lose its velocity and can be discharged immediately it passes clear of the bedplate. To prevent the pulp contacting with the roll on the lower side furthest from the bedplate, the hood is extended down towards the floor of the tub and forms a baffle or guard plate which meets the impact of the pulp as it flows towards the roll and thus minimizes the resistance to turning of the roll and reduces the power required to drive the roll. The floor of the tub where it meets the bedplate is stepped or curved downwards instead of being flat and level with the bedplate, thus allowing ample room for the pulp to flow to the roll. The hood is shaped to enclose the roll and may be mounted so as to be capable of adjustment towards and away from the roll. That part of the hood above and in connection with the backfall is curved so that the pulp striking it is deflected with the least possible loss of energy and caused to fall beyond the top edge of the back fall where it cannot interfere with the pulp being discharged by the roll. This part of the cover is brought down quite close to the roll, and the point where it meets the roll may be level with or only slightly higher than the top of the backfall to ensure a sufficient arc to effect the discharge of pulp from the roll. To help to further break up and mix the pulp, one or more diagonally disposed angle strips may be secured to the hood, the pulp as it passes over the backfall being deflected to one side by the strips and caused to mix more thoroughly. The backfall is composed partly of the metal of the trough and partly of a wooden bar, which allows of the height of the backfall being readily varied by substituting bars of different heights. To deflect the pulp over the working face of the roll as it is thrown radially outwards, the hood is formed with angular corner faces, which may extend either all round the hood or only around the upper portion thereof. To provide for the even circulation and agitation of the pulp, a slowly rotating paddle or agitator may be provided at one end of the trough.—A. P.-C.

Bleaching Pulp. O. Kress assignor to American Lakes Paper Company. Can. pat. 281,098, June 19, 1928. Sulphate pulp is treated with a quantity of bleaching powder one-half less than that required to produce the desired degree of whiteness; the partially bleached pulp is washed to remove residual chlorine and decomposition products; the pulp is made into laps and sprayed with sodium bisulphite solution until 60 to 100 pounds per ton of dry pulp has been added. The treated pulp is stored to complete the action of the sodium bisulphite.—A. P.-C.

Studies on Bleaching Powder. The Chem. Constitution of Bleaching Powder. Saburo Urano. J. Soc. Chem. Ind. (Japan) 31, 247,248B (Oct. 1928). From a discussion of his previous work on the subject, the author concludes that bleaching powder is no more than a double salt $Ca(OCl)_2.CaCl_2$ with some water of

crystallization but having a transition point at about 45°C. By heating it passes from the combined state below 45°C. to the mixture of the two single salts $Ca(OCl)_2$ and $CaCl_2$ above 45°C., and vice versa by cooling.—A. P.-C.

Bleaching of Wood Pulp VII. The Effect of Agitation on the Color Reaction Rate and Chemical Composition in Bleaching Sulphite Pulp at Several Consistencies. P. K. Gaird and R. H. Doughty, Forest Prod. Lab., Madison, Wis. Paper Mill 51, No. 44, 18-22 (Nov. 3, 1928) Paper Tr. J. 87, No. 22, 44-46 (Nov. 29, 1928). Bleaching experiments carried out at consistencies of 2, 5 and 7% and with rotational speeds of 1.04, 5.66 and 8.00 revolutions per minute of the bleacher showed that: (1) the total time of bleaching is unaffected but the rate of bleach consumption may show irregularities in consequence of insufficiently rapid initial mixing of bleach liquor and pulp. (2) The final whiteness of the pulp is slightly lowered by an excessive rate of agitation. (3) The 1% caustic soda solubility of the pulp bleached at the lower consistencies is slightly decreased at higher rates of agitation. (4) The effects noted in (2) and (3) may be ascribed to a purely mechanical action on the fibres. (5) The various effects of change in consistency already established in previous investigation have been substantiated. It is concluded that a minimum amount of agitation during bleaching is apparently necessary for optimum results and, within the limits of the experimental conditions, the less the agitation above that necessary to maintain fairly uniform concentrations in the liquid phase the better the results, especially as regards color. Thus, a satisfactory bleaching process would be one in which the beginning of the reaction, and the agitation is very little or not at all.—A. P.-C.

Beater Engine Roll. A. M. McPhillips. U. S. pat. 1,674,911, June 26, 1928. The beater knives are provided with spaced notches in their working edges, the notches in adjacent knives being relatively staggered.—A. P.-C.

Beating Engine. E. M. Wendel. U. S. pat. 1,666,587, Apr. 17, 1928. The trough is designed as a cylindrical drum with a substantially horizontal axis, and is preferably rotatable. Inside this drum is a horizontal beater roll, of substantially the same character as the roll in ordinary beating engines, which may or may not be co-axial with the outer drum. Below the roll is a bedplate which may be designed in substantially the same way as the bedplates in ordinary beating engines. The above are the essential and most characteristic features of the invention; but several arrangements and combinations, are described, including various means for feeding the stock into the beater and discharging the properly beaten stock. In one of the modifications described the bedplate is divided into a number of sections across its width, each section being adjustable relative to the roll independently of the other sections and having differently arranged knives if desired. The roll may be divided into corresponding sections, with the knives arranged similarly to those of the respective coacting sections of the bedplate. Provision is made for passing the stock successively between the several sections of the roll and bedplates, so that it follows a spiral path around the inner surface of the drum, being thus subjected to a number of different treatments before being finally discharged from the machine. Certain of the forms described are intermittent, while others are continuous.—A. P.-C.

Mechanism of the Loading of Paper. Katsumoto Atsuki and Mitsuo Nakamura. U. of Tokyo. CELLULOSE IND. (TOKYO) 3, 5-8 (1927). It was found that retention was increased with the concentration of clay in suspension up to 3 to 4 per cent above which no increase in retention was observed. Retention was increased by addition of starch paste, and also by addition of viscose if the latter was precipitated with acids, but otherwise the alkali of the viscose reduced the retention. Retention was unaffected by addition of glue or by increasing the consistency of the stock. Simultaneous addition of alum and of sodium bicarbonate increased retention. By a finer subdivision of the pulp, the retention increased to a maximum when it was divided into its individual fibers. The retention of clay by paper pulp is explained as occlusion of the clay by the paper, for since clay and fiber are both negatively charged, the clay is not in a colloidal state and therefore the electric and surface adsorption can only be insignificant. With decreasing hydrogen ion concentration (pH values of 2.0 to 13.0) the quantity of clay retained by 1 g. of paper pulp decreased from 157 to 0.46 g.—A. P.-C.

Pulp Beater. J. S. Beck. U. S. pat. 1,670,181, May 15, 1928. The bedplate coacts with the beater roll through an angle of over 90° and is fixed to a heavy concrete block. The roll is journalled in fixed bearings and the position of the bedplate can be adjusted by adjusting the horizontal position of the concrete block carrying it. No trough is used, the stock being fed directly in front of the roll and being delivered over the roll into a conduit which feeds it directly into a second similar unit. The stock may be passed in series through any required number of such units to obtain the desired beating effect.—A. P.-C.

Method of Securing Filler Strips Between the Bars of Beater Rolls or Jordan Plugs. W. Werner assignor to Noble & Wood Machine Company. U. S. pat. 1,656,876, Jan. 17, 1928. Anchor bands are provided consisting of sheet metal of proper thickness and sufficient width, which are preferably initially bent into a U-shape which will fit closely over the inner edge and against the sides of each of the bars. After the fillers or space woods have been put in place between the bars, the end portions of the anchor bands are bent down so as to lie flat on the fillers on either side of each bar. They may either be secured in position by nailing or screwing into the wooden fillers, or welded together, or else the resistance of the bent ends of the anchor straps may be sufficient to prevent the displacement of the fillers.—A. P.-C.

Beater. J. S. Beck. U. S. pat. 1,670,183, May 15, 1928. The bedplate and backfall are cast in one piece, the central portion of which is filled with concrete. The bedplate coacts with the beater roll through an angle of over 90°, extending right up to the crest of the backfall, and the roll is adjustable towards or away from the bedplate in the usual manner. If desired, instead of casting the bedplate (including the knives) in a single piece, it may be built up of bars separated by wooden fillers in the usual manner.—A. P.-C.

Processing of Waste Liquor Recovery and Pulp Washing. W. H. Howell, Jr., Can. pat. 280,056, June 19, 1928.—Wood is cooked under pressure, the spent liquor is withdrawn from the digester and without cooking is concentrated in an evaporator heated by hot vapor from the digester. The pulp is washed while in the digester with hot wash liquor at a temperature above that at which lignin becomes set, the wash liquor is withdrawn and without cooling is concentrated in an evaporator. The pulp is washed with hot water at a temperature above that at which lignin sets, the second wash liquor is withdrawn and utilized for the first step wash in a succeeding batch.—A. P.-C.

Work Progressing on Fir-Tex Plant

PORTLAND, ORE., December 14, 1929.—Contractors working on the Fir-Tex Insulating Board plant at St. Helens, Ore., are now preparing to erect steel for the office and laboratory building, the steel having arrived the first week in December on the steamship Peter Kerr. All concrete footings for the machine room, the finishing room and the board storage building have been poured and the company is making the upper forms ready for the concrete. The dock, highway and railroad spur is completed.

The bulk of the work in construction of the plant centers in the digester and shredder buildings. This main unit which will be 1400 feet long and 100 feet wide will house machinery capable of turning out 75,000,000 square feet of insulating board annually.

This plant will utilize bark, limbs of trees, sawdust and slabs. It is said that there is enough sawmill waste in the adjacent district to furnish raw material for five other units the size of the plant now being rushed to completion.

Section of the

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THOS. J. BURKE, C. A., Sec.-Treas.

The Depreciation Element in Burden Estimates*

By Prof. John B. Canning[1]

My topic, which your President has announced, raises at once the entire problem of theory both in income and capital accounts and in cost accounts. Obviously, I do not intend to say any "last word" upon it. Rather, I mean to offer "one word more." The subject matter suggested by my title can be considered separately, but not decided separately, from the rest of accounting theory and practice. I mean merely to give voice to some considerations. I hope I shall have the privilege of hearing from you when I sit down.

The Nature of Burden

Burden has existed as a phenomenon of enterprise ever since enterprise began. The use in enterprise of any source of service for more than one purpose or in more than one period gives rise to an element of burden. The sense of burden is found in either or both of these facts: (1) outlays are made in one period with intent that they should bear fruit in subsequent periods; and (2) single outlays are made to procure the fruition of more than one kind of revenue source. In other words, joint costs and the lagging of revenue behind outlays create distributable charges. There are, in a sense, two kinds of joint costs, one that is joint with respect to two or more ultimate products and one that is joint with respect to use in two or more periods. The depreciation element in burden, in most instances, presents both these aspects.

Burden in the Income and Capital Accounts

In income and capital accounting, or balance sheet accounting as it is often called, the accountant disregards the problem of joint costs as between two or more products but has regard for costs that are joint as between two or more periods. If no cost accounts are kept the accounting for depreciation in the income and capital accounts cannot greatly affect the amount of net income from operations that is *really earned*. Even if the figure for net income recorded in the books is widely divergent from the net income really earned the figure does not greatly affect future operating policy except in the matter of total volume, for these accounts do not profess to show which elements or lines of operation are most or least profitable.

In income and capital accounts any depreciation formula that year after year finds an aggregate depreciation that is not widely divergent from the *total* depreciation that has actually occurred is a satisfactory formula. This is true even though, applied to some assets, an excessive figure is found provided that these excesses are offset by the deficiencies of the charges applied to other assets. An ideal objective of income and capital accounts is easy to express and to understand. If the total operating charges, depreciation, maintenance, upkeep, repairs, and the like, are approximately proportional to volume of operations and if these aggregate charges cumulatively considered, will turn out, in the long run, to be approximately equal to total operating outlays, the net income figures, considered in relation to the book value of investment, will be a good index of the earning power of the enterprise. This is the chief objective of income and capital accounting.

"Tieing In" the Cost Accounts and the Income and Capital Accounts

The opinion is expressed widely that the cost accounts of an enterprise should be consistent with its income and capital accounts. It is said that the cost system should "tie-in" with the general accounts. Without further definition and qualification I am unwilling to subscribe to that opinion. A system of accounting for depreciation and for maintenance, upkeep, repairs, and all other outlays made to obtain the services of fixed tangibles *may be wholly satisfactory* for the income and capital accounts and at the same time be *not only satisfactory but positively baneful* if it is incorporated into the cost accounts. The converse of this proposition, fortunately, is not true. Any system of accounting for depreciation, maintenance, upkeep, repairs, and the like, that is satisfactory in the cost accounts is also satisfactory in the income and capital accounts. Cost accounts, to be useful, must be approximately correct in detail; income and capital accounts need only to be correct in aggregate. Correct details yield correct summations, but correct summations may be got from incorrect details. There should be a "tie-in" of the cost system with the general books, but the cost system should control the ledgers—not the converse.

The propositions just made require support. I proceed to suggest the support by making certain elementary propositions. These include:

1—A fixed tangible asset is bought because the service it is expected to render is essential to the program of operations.

2—The kind of asset bought is determined by someone's opinion that this asset will render this essential service at a lesser cost per unit than any available alternative asset. This cost per unit of service includes not only the cost installed new but also the subsequent outlays to be occasioned by its operation and its final demolition and removal.

3—All costs of the services of a fixed tangible asset, purchase price less salvage value, repairs, demolition, etc., should have been charged as costs of production of the product worked on by the time after which it will no longer pay to keep the device in service.

* N. A. C. A. Bulletin.
[1] Assoc. Prof. of Economics, Stanford University, Palo Alto, Calif.

4—A fixed tangible asset cannot profitably be kept in operation, either when the future outlay costs of operation per unit of service become greater than the cost per unit of getting like service from the available alternative agent or when the device can no longer render adequate service or when its service can no longer be economically utilized.

5—The cost accountant is not interested independently in depreciation as such. He is interested in cost of asset service. He may *wish* he could *value* units of service but he cannot do so unless the service is to have a separate sale.

6—Given an estimate of a total cost of a stream of services there is usually no ground for assigning in advance more of the total cost to any unit than to any other.

7—There is for every fixed tangible asset in any enterprise a most economical method of operating it. While it is impossible to forecast that method with precision it is possible to do better than merely guess at it.

8—Fixed tangible assets per dollar of total cost of total services differ significantly from one another with respect to:

A—The time-distribution of their expected services. The service yield may be continuous and uniform, or it may increase or decrease year by year.

B—The time-distribution of their costs of operating. This may be uniform, increasing or decreasing.

This allows for nine simple elementary types all to be found in industry.

These eight propositions are by no means a complete list nor are the propositions independent of one another. But sufficient time is not at my disposal either to complete the list or to point out the interrelations of the items. I put this list before you both because my generalizations about "tieing in" the cost accounts needed support and because they underlie the objectives of cost accounting.

Let me put three schedules of data before you.

SCHEDULE I

Time-Distributions of Anticipated Operating Outlays for Assets of Types:

Period	A	B	C	D	E	F	G	H	I
1	$5	$1	$15	$5	$1	$15	$5	$1	$15
2	7	1	13	7	1	13	7	1	13
3	9	1	11	9	1	11	9	1	11
4	11	1	9	11	1	9	11	1	9
5	13	1	7	13	1	7	13	1	7
6	35	21	25	35	1	25	35	21	25
7	17	1	3	17	1	3	17	1	3
8	19	1	3	19	1	3	19	1	3
9	21	1	1	21	1	1	21	1	1
10	25	1	6	25	1	6	25	1	6

Time-Distributions of Anticipated Units of Service for Assets of Types:

Period	A	B	C	D	E	F	G	H	I
1	$10	$10	$10	$1	$1	$1	$50	$50	$50
2	15	15	15	1	1	1	50	50	50
3	20	20	20	1	1	1	45	45	45
4	25	25	25	1	1	1	40	40	40
5	30	30	30	1	1	1	35	35	35
6	35	35	35	1	1	1	30	30	30
7	40	40	40	1	1	1	25	25	25
8	45	45	45	1	1	1	20	20	20
9	50	50	50	1	1	1	15	15	15
10	50	50	50	1	1	1	10	10	10

Other data:

n = 10 for all types. vo = $100 for all types. vn = $5 for all types.

In the 6th period an "extraordinary," or "major," repair at a cost of $20 is contemplated in all but type E.

SCHEDULE II

Asset "B"

Schedule of Operating Outlays Made and of Services Obtained in Each Period and Book Value at the End of Each Period as Found by the Several Formulas.

Period	Services Obtained	Operating Outlays	Book Value by Formula: 1	2	3	4	5	6	7	8
0	0	$0	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00
1	10	1	90.50	92.45	74.11	82.73	97.03	88.50	97.09	100.85
2	15	1	81.00	84.52	54.93	67.18	92.58	77.00	92.23	99.18
3	20	1	71.50	76.19	40.72	53.36	86.64	65.50	85.42	94.85
4	25	1	62.00	67.45	30.18	41.27	79.22	54.00	76.66	87.73
5	30	1	52.50	58.27	22.36	30.91	70.31	42.50	65.94	77.68
6	35	21	43.00	48.63	16.57	22.27	59.92	51.00	73.27	84.56
7	40	1	33.50	38.50	12.28	15.36	48.05	39.50	58.64	69.20
8	45	1	24.00	27.88	9.10	10.18	34.69	28.00	42.06	50.51
9	50	1	14.50	16.72	6.75	6.73	19.84	16.50	23.53	28.31
10	50	1	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Asset "B"

Schedule of Total Operating Costs per Unit of Service in Each Period as Found if Each of the Indicated Formulas is Used.

Period	1	2	3	4	5	6	7	8
1	$1.050	$.855	$2.690	$1.827	$.397	$1.250	$.391	$.515
2	.700	.595	1.345	1.103	.363	.833	.391	.515
3	.525	.467	.760	.741	.347	.625	.391	.515
4	.420	.390	.462	.524	.337	.500	.391	.515
5	.350	.339	.294	.379	.330	.417	.391	.515
6	.871	.875	.765	.847	.897	.357	.391	.515
7	.262	.278	.132	.198	.322	.312	.391	.515
8	.233	.258	.093	.137	.319	.278	.391	.515
9	.210	.243	.067	.089	.317	.250	.391	.515
10	.210	.254	.055	.055	.317	.250	.391	.515

With respect to range of error in unit costs, the first six formulas rank from best to worst as follows: Nos. 5, 2, 1, 6, 4, and 3.

SCHEDULE III

Asset "H"

Schedule of Operating Outlays Made and of Services Obtained in Each Period and Book Value at the End of Each Period as Found by the Several Formulas.

Period	Services Obtained	Operating Outlays	1	2	3	4	5	6	7	8
0	0	$0	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00	$100.00
1	50	1	90.50	92.45	74.11	82.73	85.16	88.50	81.47	83.15
2	50	1	81.00	84.52	54.93	67.18	70.31	77.00	62.94	65.46
3	45	1	71.50	76.19	40.72	53.36	56.95	65.50	46.36	49.17
4	40	1	62.00	67.45	30.18	41.27	45.08	54.00	31.74	34.35
5	35	1	52.50	58.27	22.36	30.91	34.69	42.50	19.06	21.07
6	30	21	43.00	48.63	16.57	22.27	25.78	51.00	28.34	29.42
7	25	1	33.50	38.50	12.28	15.36	18.36	39.50	19.58	20.46
8	20	1	24.00	27.88	9.10	10.18	12.42	28.00	12.77	13.35
9	15	1	14.50	16.72	6.75	6.73	7.97	16.50	7.91	8.16
10	10	1	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Asset "H"

Schedule of Total Operating Costs per Unit of Service in Each Period as Found if Each of the Indicated Formulas is Used.

Period	1	2	3	4	5	6	7	8
1	$.210	$.171	$.539	$.365	$.317	$.250	$.391	$.457
2	.210	.179	.404	.351	.317	.250	.391	.457
3	.233	.207	.338	.329	.319	.278	.391	.457
4	.263	.244	.289	.327	.322	.313	.391	.457
5	.300	.291	.252	.325	.325	.357	.391	.457
6	1.017	1.021	.893	.988	.997	.417	.391	.457
7	.420	.445	.215	.316	.337	.500	.391	.457
8	.525	.581	.209	.309	.347	.625	.391	.457
9	.700	.810	.223	.297	.363	.833	.391	.457
10	1.050	1.272	.275	.273	.397	1.250	.391	.457

With respect to range of error in unit costs, the first six formulas rank from best to worst as follows: Nos. 5, 3, 4, 1, 6, and 2.

Types of Assets

May I comment briefly upon these schedules. Schedule I supplies certain data for an imaginary scheme of fixed tangible assets of the nine elementary types that I have just mentioned. These types are indicated by the column heads, A, B, C, etc. Note that, to simplify matters, I have assumed like original values like lengths of service life and like salvage values. The types differ from one another in two respects only. The first of these is in amount and time-distribution of outlays for maintenance, upkeep, repairs, etc. The annual amounts of these constitute the entries in the first table. The second respect in which the asset types differ is in amount (however measured) and time-distribution of services to be obtained. These amounts or units of service constitute the entries in the second table.

These nine types, of course, are not put forward as an exhaustive list. Many combinations and modifications of these suggest themselves at once. These nine types merely are meant to indicate roughly a range of differences that are important to the cost accountant. Sometimes the type is fixed by the intrinsic properties of the instrument. This is the case with orchard trees. They require increasing annual outlays to operate (i. e., to obtain the fruit ready for market) during the earlier bearing life. These outlays may decline abruptly, or terminate at the maximum, when the tree has to be scrapped by reason of casualty, rotting, etc. Services rendered (yield of fruit) more or less parallel the operating outlays. But sometimes it is the anticipated market that determines the type. This is the case when a twelve inch water main is laid at a time when a six inch main would carry the maximum flow required for current consumption. But the rate of expected increase in maximum flow requirements, by reason of population increase, may be great enough to make it most economical to install a pipe with four times the carrying capacity now necessary.

Schedules II and III show, for assets of types B and H, the successive book values, cost less depreciation, as found by eight revaluation formulas, and the costs per unit of service that result in each year under each of the eight revaluation formulas. Cost per unit of service in each case is the algebraic sum of depreciation for the year plus operating outlays for the year divided by the number of units of service obtained in the year. Note that the only difference between asset B and asset H is that the service schedules are inverted in order of time.

The formulas involved are:

1—Straight line.

2—Sinking fund interest at five precent.

3—Fixed percentage on declining balance.

4—Sum-of-the-years' digits.

5—Service unit. A service unit cost (in this formula) is defined as the quotient of the difference between cost and salvage value divided by the total number of service units expected. The depreciation in any year becomes the product of this unit cost times the number of units of service utilized.

6—Modified straight line. To the difference between cost and salvage value is added the anticipated cost of any "major repair" or other anticipated "extraordinary" outlay. This sum divided by the number of periods of use-life becomes the annual charge for depreciation. When the "extraordinary" outlay occurs it is charged to the reserve for depreciation. Such an "extraordinary" item, in the amount of $20, is included in the sixth period in all the foregoing types except E.

7—Modified service unit. The sum of *all* operating outlays expected plus the difference between cost and salvage value is divided by the number of units of expected service (however measured) to find a unit cost of service. This unit cost of service times the number of units of service obtained in a year becomes the credit to the depreciation reserve. The outlays made during the year are debited to the reserve. Credit to the reserve less debit to the reserve during any period becomes the depreciation for the period.

8—Modified service unit. The same as formula 7 except that interest on the investment is charged at some specified rate. The technique of making this charge goes beyond the limits of this paper.

The Data Considered in Three Ways

I propose to consider the data in the schedules in three different ways: (1) as though they were records of historical fact; (2) as though they were good estimates; and (3) as though they were poor estimates.

THE DATA AS A HISTORICAL RECORD—

Suppose the data in schedule I to be taken from a well kept machine register. Assume that the life history of each machine shows cost, salvage value, amount and time-distribution of service, and amount and time-distribution of operating outlays. Suppose, further, that the management paid no attention at all to the cost figures. Now let us see, in a few instances, what would have happened to the unit cost figures for assets B and H when we successively consider the effects of the several methods of distributing depreciation.

Note first that formula 7 shows the same cost per unit of service throughout, viz, $3.91 per unit and that this cost is common to the two assets. The straight line formula, on the other hand, applied to asset B shows a unit cost declining by irregular steps from $1.05 to $.210 with one abrupt rise to $.871 in the sixth period. On asset H this formula gives an irregularly increasing schedule. In column 2, sinking fund formula, the results are better for B and worse for H than those yielded by the straight line rule. The fixed percentage method and the sum-of-the-years'-digits methods show absurd variations of unit costs as between early and late years on asset B but give fairly good results, by accident, on asset H. The service unit formula, column 5, does not go far wrong, except in the sixth year on either asset. The modified straight line formula, column 6, compared with column 7 does better for both assets in the sixth year than any of the other formulas so far considered. But it does worse in some other years than each of the other formulas. I do not intend to consider formula 8 at this point. Whenever "interest as a cost" is thrown into the arena accountants become disorderly.

So far I have considered only unit costs of service. This goes far enough for "process cost accounting" but stops too soon for unit product costs. But no matter what the method of distributing overhead may be, these unit service costs get into the unit product costs. When equipment of type B predominates in a department or when the department is planned and equipped for an annually increasing output the unit costs of product will dance about just as the unit service costs do.

THE DATA CONSIDERED AS GOOD ESTIMATES:

So far I have looked at the figures as history only. I have treated the data as though they had been recorded in a well kept machine register but had been disregarded by the management. Suppose now, that they are estimates—good estimates—of what will happen, so far as service and future outlays are concerned, in operating assets of these types. Imagine that the method of burden distribution in effect is the machine rate method. Product X is turned out under conditions represented by Type B; product Y under conditions represented by H. Suppose the selling price available for X and Y to be equal and their costs per unit as determined by formula 7 to be equal throughout. Suppose the margin between cost and selling price will yield a good profit. And finally suppose that the management believes that the cost accountant says about unit costs and lays out its advertising and selling budget to increase the sales of the "best paying" lines of product. Under the conditions stated, except for differences of interest on the investment, any preference that they give to either X or Y in their selling expense budgets will work to their disadvantage. There is a limit to the extent to which sales may be made to increase in proportion to selling effort.

Under these conditions product Y durng the first five periods will *appear* to be the more profitable and its sales will be pushed by selling effort no matter which of the first six formulas is employed to estimate depreciation. During the sixth year both products will appear to be losers and neither will be pressed upon buyers. During the last four years the advantage will appear to have passed to product X. The X market will be exploited and the market developed for Y will be allowed to run down.

Every selling budget and every change made in selling budget will be wrong. The accountant and the management have put their faith in cost figures instead of in the costs that really exist. The differences in the cost figures are not due to anything that happens during the ten years in manufacturing X and Y. The differences are due to something the cost accountant has written in a book. But this is not the sad part of the story. Figures never hurt anyone who disregards them. But if you believe bad ones and act on them you do get hurt. If you act on them your figures will not merely continue to lie about your profits, but there won't really be as much profit. Formula 7 would have avoided both bad figures, and bad selling policy and, hence, the loss of profits.

You are all aware, of course, of a number of devices relied upon to prevent cost figures from becoming absurd. Standard costs are relied on to get rid of the unused capacity variable. To some degree the device succeeds, but it can never eliminate the error in bad estimates of depreciation. It can, at best, only diminish the error. In many systems, too, burden is distributed on a man-hour, or a direct labor cost, basis. Since man-hours of work done on a job and labor cost of a job have little relation to the cost of getting the service of fixed assets or to the time-distribution of the services and their costs, this system of distribution hides the worst blunders in depreciation estimates and to this extent pre-

vents the management from being misled by them. It does not eliminate this type of error, it merely scatters it broadcast. The machine rate method, with proper distribution of depreciation, is excellent; with bad distribution, it is baneful.

Early in my remarks I indicated the possibility that several methods of distributing depreciation may find approximately equal aggregate book values of assets despite their finding widely divergent book values for the individual assets. Calculated by the straight line rule, either simple or modified to include major repairs, by the sinking fund, and by the service unit rules, the aggregate book value for these nine assets is not greatly divergent from that found by the modified service unit rule. Of the first seven only the latter attempts to distribute or can distribute, total cost of a set of services uniformly to the sums.

THE DATA CONSIDERED AS POOR ESTIMATES:

I have now considered the data as though they were historical records of fact, and as though they were good estimates of the future. Let me now consider the case of supposedly bad estimates. In general we can rule out bad estimates of original value. These values are largely fixed by the "prudent investor" practice of all accountants; the accounting begins after first cost is incurred. Scrap value is always, in terms of dollars, a minor consideration. The errors in the estimates that are chiefly significant are those involving the amount of service, however measured, the amount of subsequent outlays for operating costs, the number of periods within which the service is to be utilized and the time-distribution of operating outlays and service utilization.

I need not point out to you that estimates of these five variables must be made, no matter what formula is to be employed, and they must be made before an asset is acquired if the purchase of fixed tangible assets is to rise above the level of mere bargaining and guesswork. Nor need I say more about the effect of errors that occur in making a choice upon the real income of the concern. The payment of the price commits the concern to the use of the thing purchased. No matter how the income and capital accounts are kept the effect of the purchase error will ultimately appear in the net income and the surplus figures. A wrong purchase decision spills the milk. The different distributions of the error by the several formulas are but different ways of crying over it.

But errors in the first estimates or what amounts to the same thing, disregard of good estimates, can do additional harm in cost accounts. For, as we have seen, these errors affect unit cost figures and unit profit figures, and therefore, if they are believed, affect operating policy always for the worse. Future profits are adversely affected in any event by bad purchases, but bad cost figures make a bad condition worse.

The five variables I have mentioned must not only be estimated before purchase, they must also be estimated simultaneously for they are interdependent. You cannot intelligently estimate the year-life of a truck without regard for the mileage your business requires the truck to run in each year nor the amount that it will pay to spend on maintenance, upkeep and repairs. You cannot intelligently build a specialized plant structure to last fifty years without reason to suppose that adequate business to conduct in it can be had for that term.

Probably the hardest of all variables to estimate is that of total year-life. This is not so difficult with structural assets as with machine assets. Deterioration of buildings is largely a function of age in any given climate. But deterioration of assets that are subject to friction, or to vibration, or to heat in excess of certain tolerance limits is less a function of age than of amount of operating use. Consider the case of a motor bus. The gasoline and oil used, the tires worn out, the valve grinding jobs, engine repairs, brake lining replacements, washing and cleaning, in fact all the large items except possibly repainting charges are geared to the crank-shaft instead of the calendar. You look at the odometer reading rather than at the date of the purchase invoice to estimate how much more service you can get before it will no longer pay to repair the bus.

Errors in estimating the rate at which service will be utilized always bring grief no matter what formula is used if that formula necessarily includes the symbol for the number of years of use expected. Of the formulas considered all but two require an estimate of n. But the service unit formula, modified to take account of operating outlays, is independent of time unless the most significant measure of service is a year-in-use rather than miles-run, kilowatt-hours generated, metal cut, number of impressions in die casting, etc. For machine assets, one mile run, one unit of depreciation maintenance upkeep and repair gone; one round fired from a sixteen inch gun, one unit of operating cost gone; and so on. Speeding up or retarding the rate of utilizing the service is associated with like telescoping or stretching of the outlay schedules.

It is easily possible to show exactly under what conditions any one formula will yield better unit costs than another. That is a matter of algebra in most cases. In some cases elementary calculus would be useful. There is a great deal of this kind of work to be done that has never been done except in sporadic cases. It can be done and needs to be done. Fortunately it is a kind of work that needs to be done only once. It is proper subject matter in the theory of cost analysis.

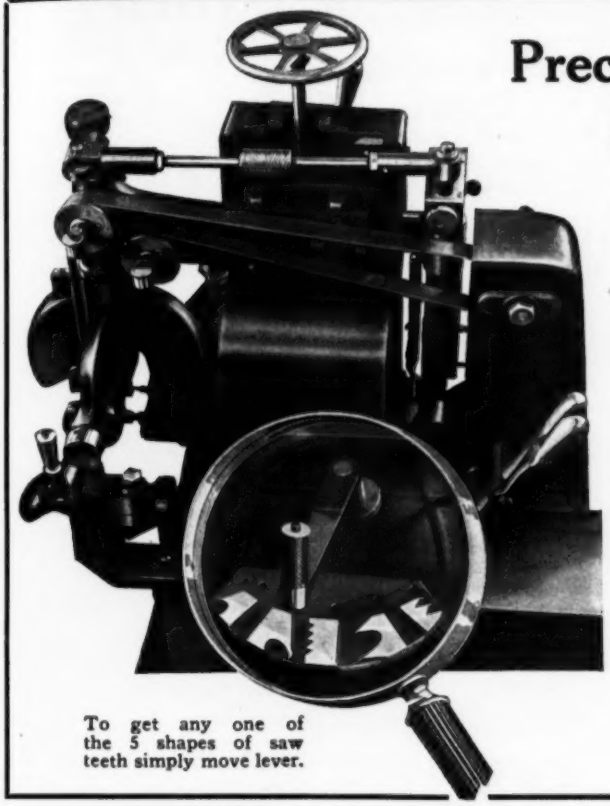
INTEREST ON THE INVESTMENT IN DEPRECIATION ESTIMATES:

Now that you are worn out I venture to mention interest as a cost. I am not an accountant nor a cost accountant though I teach accounting and cost analysis. I am, if anything, an economist. You all know that economists all declare interest to be a cost of production. They do not say that interest must be charged on the books. Further they have nearly all neglected to point out that it is no less than intellectual anarchy to employ interest as a cost in any case except in determining capital (capitalized) value or except in connection with a figure that is, itself, a capital (capitalized) value. Whole books and tons of journal articles have been written on this subject by men who did not grasp these elementary principles. Some of the authors of these works do not know what the economist means by "interest". Others do not know that fixed asset book values are not, and, in general, never can be capitalized values. Some know neither. Interest calculation as part of the technique of cost estimating has an important role to play. Interest in the cost accounts is either a bull in a china shop or a microscope used for a field glass. Fancy charging interest at any rate whatever on the properties acquired by issues of stock in American corporations.

I say this feelingly. I once spent months inventing the perfectly general valuation formula to value all assets to yield some rate percent on the investment. The formula became my pet. I showed it to all my friends. It would do exactly what I taught it to do every time. Two other men have since invented the same formula and published it and still think highly of it. I used it in column 8 of schedules II and III. It has one slight fault. It will, be a generally useful formula when business men become so omniscient that they will no longer need cost accountants nor, indeed, any accountants at all. It *may* become useful in some cases in public utility accounting if our rate commissions, our legislatures and our courts ever see fit to substitute the "prudent investor" rule for their present absurd imitation of a "cost of reproduction less depreciation" rule. It may prove useful in determining goodwill valuations in certain consolidation agreements. I have included a full treatment of this formula in a book now in press[1], but I had discovered the limits to the usefulness of the formula before I wrote the book.

New Bates Valve Bag Plant Completed

VERNON, Cal., December 11, 1929.—Increase of western business of the Bates Valve Bag Company, New York, will be accommodated by a new plant just completed at Vernon, Cal. The plant is 160 by 360 feet and was designed and constructed by the Austin Company, of California. The bag company formerly leased quarters at Vernon.



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(Continued from page 23)

100 per cent Rag Machine-finish Book.
50 per cent Rag Supercalendered Book.
100 per cent Rag White Writing.
100 per cent Rag Manifold.
100 per cent Rag White Bond.
Declaration Bond.
Parchment Deed.
100 per cent Rag White Ledger.
100 per cent Rag Index.

The specifications for 100 per cent Rag Writing and 100 per cent Rag Index have also been modified to require new rags in order to insure the highest and most permanent quality.

The gloss requirement has been eliminated from the specifications, as experience during the year indicated that it is unsatisfactory and does not insure the uniformity of finish required. The standard samples and practical printing tests will be the guide as to surface and finish.

The grade-watermark for rag-content bond and ledger papers adopted last year has proven most satisfactory, and is an important step in the standardization of paper. The watermark for 100 per cent Rag White Writing has been made the same as for 100 per cent Rag Bond and Ledgers.

The requirement for folding endurance for Sulphite Bond has been increased from 40 to 80 double folds to insure a better grade, as the present requirements are but little higher than those of Sulphite Writing.

The folding endurance requirement for 100 per cent Rag Bond, Declaration Bond, and Parchment Deed has been increased from 900 to 1,000 double folds.

The folding endurance requirement for Sulphite Manila has been increased, as the present requirements which were added last year are too low for the quality of paper desired.

Difficulty has been experienced in securing a satisfactory quality of rope manila paper and a requirement for folding endurance has been added in order to obtain paper of a better quality. The bursting strength test has been found, as with other grades of paper, inadequate to control the quality of this paper.

An important requirement as to water resistance has been added to the specifications for both No. 2 and Best Quality Binders Board. The results of an investigation under way by the Division of Tests of the Government Printing Office to overcome the difficulty experienced with the warping of book covers indicate that boards rendered water resistant by rosin sizing will materially aid in overcoming warping.

This schedule embraces 182 lots as against 181 lots in the schedule for 1929-30, and the quantity estimated for the full year beginning March 1, 1930, is 54,300,000 pounds as against 50,850,000 pounds for 1929-30.

Paper Asked For

The paper asked for includes the following:

3,000,000 pounds standard newsprint paper.
10,080,000 pounds machine-finish book paper.
50,000 pounds antique book paper
225,000 pounds light-weight machine-finish book paper.
700,000 pounds 50% rag machine-finish book paper.
80,000 pounds 100% rag wove book paper.
3,530,000 pounds supercalendered book paper.
180,000 pounds halftone book paper.
700,000 pounds coated book paper.
150,000 pounds lithograph paper.
2,840,000 pounds mimeograph paper.
700,000 pounds U. S. M. O. safety writing paper.
20,000 pounds U. S. M. O. writing paper.
5,000 pounds safety writing paper.
3,870,000 pounds writing paper.
420,000 pounds map paper.
200,000 pounds chart paper.
955,000 pounds manifold paper.
7,383,000 pounds bond paper.
4,000 pounds parchment deed paper.
918,000 pounds ledger paper.
477,000 pounds index paper.
6,000 pounds tissue paper.
430,000 pounds cover paper.
995,000 pounds manila paper.
1,020,000 pounds kraft paper.
320,000 pounds manila tag board.
700,00 ponds calendered tag board.
40,000 pounds manila cardboard.
295,000 sheets railroad board.
960,000 pounds bristol board.
11,000,000 pounds U. S. Postal Card bristol board.
8,000 pounds paraffin paper.
310,000 sheets gummed paper.
232,000 pounds blotting paper.
7,000 pounds stereotype molding paper.
30,000 pounds oiled manila tympan paper.
2,000 pounds plate-wiping paper.
6,000 pounds back-lining paper, for case making.
60,000 sheets pressboard.
3,000 pounds news board.
850,000 pounds chip and straw board.
40,000 pounds marble grained board.
80,000 pounds box board.
900,000 pounds binders board.

In cases where more than 1,000 reams are called for, proposals will be received for 1,000 reams or more.

Bids are being asked on the following envelopes:

31,150,000 Kraft.
6,205,000 Writing, Sulphite, White and Colored.
142,000 Fine Writing, White and Colored.
360,000 Ledger, White.
970,000 Bond, 50% Rag, White.
230,000 Bond, 100% Rag White.

Make Rosin Marketing Innovation

WILMINGTON, Del., December 16. 1929.—Following investigations at its naval stores plants during the past year, the Hercules Powder Company announces its readiness to supply, for the first time, wood rosin in wooden barrels on a net weight basis. This marketing innovation is expected to effect decided savings for the rosin consuming industry.

The net weight sales plan is instituted by Hercules in response to the desire by consumers for such action. Committees of rosin consumers, representing leading trade associations, have urged the sale of rosin on a net weight basis and the reduction of tares to a minimum.

The sale of rosin in wooden barrels on a net weight basis enables the company to furnish a package consisting of less wood and more rosin. As a result of this development, consumers will eventually realize considerable savings in freight.

Since the new marketing method pioneered by the Hercules company is novel in the history of the industry, rosin consumers are expected to assist in the ultimate development of the most practical shipping package.

Manitowoc Engineering Works Busy

MANITOWOC, Wis., December 16, 1929.—The Paper Mill Department of the Manitowoc Engineering Works is very busy at this time. Work under construction consists of the following: Three—Sulphite Digesters; four—11 Ft. Incinerators; one—12 x 45' Barking Drum; one—Steam Accumulator.

Pulp Mill Knives for
Chippers
Barkers
Hogs
Shredders

Paper Mill Knives for
Washers
Beaters
Refiners
Jordans
Rotary Sheet Cutters
Trimmers
Flat Bed Cutters

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TRY THEM! You'll never go back to ordinary steel knives once you do. Bolton Bronze and Stainless Knives are a proved success. Every mill that has tried them out is adopting them as standard.
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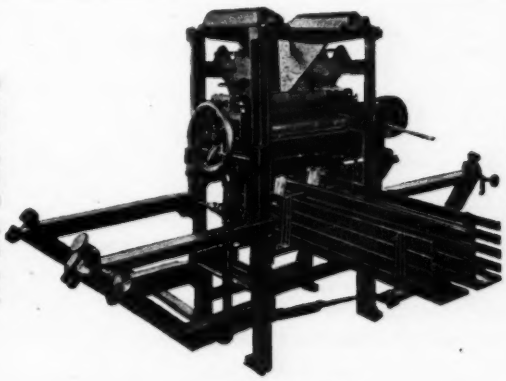

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NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING DECEMBER 14, 1929

SUMMARY

Cigarette paper	232 cs.
Wall paper	217 bls., 23 cs.
Paper hangings	54 bls., 3 cs.
Printing paper	25 bls.
News print	27 rolls
Printing paper	11 bls., 47 cs.
Packing paper	23 bls., 23 cs.
Wrapping paper	17 bls., 42 cs.
Condenser tissue paper	18 cs.
Tissue paper	155 cs.
Colored paper	37 cs.
Drawing paper	11 cs.
Filter paper	36 bls., 32 cs.
Baryta coated paper	218 cs.
Metal coated paper	68 cs.
Gold coated paper	7 cs.
Surface coated paper	5 cs.
Writing paper	1 cs.
Aluminum paper	28 cs.
Decalcomania paper	55 cs.
Stencil paper, etc.	113 cs.
Cover paper	7 cs.
Paint paper	2 cs.
Silk paper	20 cs.
Copy paper	22 cs.
Transparent greaseproof paper	46 cs.
Envelopes	14 cs.
Paper bags	84 bls.
Straw board	528 rolls
Miscellaneous paper	25 rolls, 167 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Schodack, Havre, 232 cs.

WALL PAPER

Draeger Shipping Co., St. Louis, Hamburg, 16 bls.

Globe Shipping Co., St. Louis, Hamburg, 13 cs., 84 bls.

Rohner Gehrig & Co., St. Louis, Hamburg, 1 ble.

Irving Trust Co., St. Louis, Hamburg, 5 cs.

A. C. Dodman, Jr., Inc., Republic, Bremen, 22 bls.

F. A. Binder, Stuttgart, Bremen, 6 bls.

Universal Car Loading Co., Stuttgart, Bremen, 14 bls.

C. Grimmer & Son, Stuttgart, Bremen, 4 bls.

Kensington Wallpaper Co., Stuttgart, Bremen, 7 bls.

Phoenix Shipping Co., Reliance, Hamburg, 3 bls.

F. J. Emmerich, Reliance, Hamburg, 45 bls., 2 cs.

Irving Trust Co., Reliance, Hamburg, 2 cs.

National City Bank, American Banker, London, 16 bls.

A. C. Dodman, Jr., Inc., Berengaria, Southampton, 10 bls.

Stone Gross Co., Berengaria, Southampton, 1 cs.

F. J. Emmerich, Berengaria, Southampton, 2 bls.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnekahda, London, 28 bls., 3 cs.

A. C. Dodman, Jr., Inc., Baltic, Liverpool, 26 bls.

PRINTED PAPER

Kensington Wallpaper Co., St. Louis, Hamburg, 25 bls.

NEWS PRINT

Parsons & Whittemore, Inc., Stuttgart, Bremen, 27 rolls.

PRINTING PAPER

Japan Paper Co., France, Havre, 11 bls.

International F'd'g. Co., Volendam, Rotterdam, 10 cs.

Hensel Bruckman & Lorbacher, St. Louis, Hamburg, 4 cs.

T. N. Fairbanks Co., Roma, Genoa, 24 cs.

Japan Paper Co., Roma, Genoa, 28 cs.

I. Henschel Co., Reliance, Hamburg, 9 cs.

Japan Paper Co., American Banker, London, 2 cs.

F. L. Kramer Co., Ausonia, London, 3 cs.

U. S. Envelope Co., Ausonia, London, 5 cs.

Japan Paper Co., London Exchange, London, 4 cs.

PACKING PAPER

J. P. Hefernan Paper Co., St. Louis, Hamburg, 23 bls.

——, Volendam, Rotterdam, 23 cs.

WRAPPING PAPER

Atlantic F'd'g Co., St. Louis, Hamburg, 17 cs.

Martin & Bechtold, Berengaria, Southampton, 42 cs.

CONDENSER TISSUE PAPER

F. C. Strype, C. Biancamano, Genoa, 18 cs.

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Old Master Paper & Pulp Co., St. Louis, Hamburg, 101 cs.

Old Master Paper & Pulp Co., Reliance, Hamburg, 50 cs.

B. F. Drakenfeld & Co., Laconia, Liverpool, 3 cs.

W. J. Byrnes, Laconia, Liverpool, 12 cs.

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S. Langsdorf Co., Inc., St. Louis, Hamburg, 3 cs.

S. Gilbert, Stuttgart, Bremen, 30 cs.

S. Gilbert, Bremen, Bremen, 1 cs.

J. Beckhard, Bremen, Bremen, 3 cs.

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H. Reeve Angel & Co., Inc., Minnekahda, London, 4 cs.

Devoe & Reynolds Co., France, Havre, 7 cs.

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C. Schleicher Schull Co., Reliance, Hamburg, 1 cs.

H. Reeve Angel & Co., Inc., Berengaria, Southampton, 25 cs.

E. Fougera & Co., Berengaria, Southampton, 36 bls.

BARYTA COATED PAPER

Globe Shipping Co., Republic, Bremen, 100 cs.

Globe Shipping Co., Stuttgart, Bremen, 106 cs.

Taub Hummel & Schnall, Bremen, Bremen, 12 cs.

METAL COATED PAPER

Hensel Bruckman & Lorbacher, Stuttgart, Bremen, 68 cs.

GOLD COATED PAPER

F. Murray Hill, Stuttgart, Bremen, 2 cs.

F. Murray Hill, Bremen, Bremen, 5 cs.

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Globe Shipping Co., Reliance, Hamburg, 4 cs.

Phoenix Shipping Co., Reliance, Hamburg, 1 cs.

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B. Altman & Co., France, Havre, 1 cs.

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Catty Foil Co., Stuttgart, Bremen, 28 cs.

DECALCOMANIA PAPER

C. W. Sellers, Stuttgart, Bremen, 22 cs.

B. F. Drakenfeld & Co., Laconia, Liverpool, 30 cs. (dunlex).

B. F. Drakenfeld, Laconia, Liverpool, 3 cs. (simplex).

STENCIL PAPER, ETC.

Arlac Dry Stencil Co., Reliance, Hamburg, 113 cs.

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International F'd'g. Co., Reliance, Hamburg, 7 cs.

PAINT PAPER

Hudson F'd'g. Co., France, Havre, 2 cs.

SILK PAPER

Meadows Wye & Co., Volendam, Rotterdam, 20 cs.

COPY PAPER

Whitfield Paper Works, Toba Maru, Kobe, 22 cs.

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Central Hanover Bank & Trust Co., St. Louis, Hamburg, 46 cs.

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Globe Shipping Co., Stuttgart, Bremen, 8 cs.

J. Beckhard, Bremen, Bremen, 6 cs.

PAPER BAGS

Van Oppen & Co., Stuttgart, Bremen, 84 bls.

STRAW BOARD

Walker Goulard Plehn Co., Volendam, Rotterdam, 332 rolls.

R. Wilson Paper Corp., Volendam, Rotterdam, 196 rolls.

MISCELLANEOUS PAPER

Keuffel & Esser Co., Volendam, Rotterdam, 21 cs.

E. Dietzgen & Co., Volendam, Rotterdam, 31 cs.

F. C. Strype, C. Biancamano, Genoa, 15 cs.

Haule Wax Paper Manfg. Co., St. Louis, Hamburg, 2 cs.

Draeger Shipping Co., St. Louis, Hamburg, 2 cs.

Import Sign Co., St. Louis, Hamburg, 5 cs.

Package Paper Co., Reliance, Hamburg, 25 rolls.

G. Gennert, France, Havre, 6 cs.

Keller Dorian Paper Co., France, Havre, 33 cs.

Arles Co., Inc., France, Havre, 6 cs.

Standard Products Corp., France, Havre, 36 cs.

Guibout Freres, France, Havre, 3 cs.

Keller Dorian Paper Co., Schodack, Havre, 6 cs.

RAGS, BAGGINGS, ETC.

Merchants National Bank, Volendam, Rotterdam, 30 bls. rags.

Castle & Overton, Inc., Volendam, Rotterdam, 776 bls. rags.

Int'l Germanic Trust Co., Volendam, Rotterdam, 129 bls. bagging.

Irving Trust Co., Volendam, Rotterdam, 148 bls. cottons.

American Over-Oceans Corp., Toba Maru, Kobe, 85 bls. rags.

Hoffman Lion Mills, Toba Maru, Osaka, 15 bls. rags.

D. Galloway, Inc., Toba Maru, Osaka, 25 bls. rags.

Darmstadt Scott & Courtney, Toba Maru, Osaka, 135 bls. rags.

W. Schall & Co., Cabo Mayor, Barcelona, 158 bls. rags.

Bank of New York, Cabo Mayor, Barcelona, 340 bls. rags.

Int'l Germanic Trust Co., Cabo Mayor, Barcelona, 209 bls. rags.

Bank of New York, Balfe, B. Ayres, 125 bls. rags.

Chemical Bank & Trust Co., Titania, Antwerp, 234 bls. rags.

Chemical Bank & Trust Co., Titania, Antwerp, 149 bls. old cottons.

Castle & Overton, Inc., Titania, Antwerp, 208 bls. rags.

Royal Manfg. Co., Titania, Antwerp, 46 bls. cotton waste.

Katzenstein & Keene, Inc., Titania, Antwerp, 242 bls. rags.

Katzenstein & Keene, Inc., Titania, Antwerp, 51 bls. bagging.

F. Stern, Titania, Antwerp, 210 bls. rags.

Guaranty Trust Co., Titania, Antwerp, 104 bls. rags.

Guaranty Trust Co., Titania, Antwerp, 103 bls. flaxwaste.

Webster Atlas Nat'l Bank, Titania, Antwerp, 77 bls. flaxwaste.

Phila. National Bank, Titania, Antwerp, 74 bls. bagging.

E. Mayer, St. Louis, Hamburg, 10 bls. rags.

Bankers Trust Co., St. Louis, Hamburg, 31 bls. rags.

Int'l Germanic Trust Co., St. Louis, Hamburg, 183 bls. cotton waste.

A. W. Fenton, Inc., St. Louis, Hamburg, 4 bls. rags.

Irving Trust Co., Kepwick Hall, Barcelona, 62 bls. rags.

Chemical Bank & Trust Co., Kepwick Hall, Barcelona, 151 bls. rags.

S. Birkenstein & Son, Kepwick Hall, Barcelona, 123 bls. rags.

The Barrett Co., Kepwick Hall, Barcelona, 77 bls. rags.

Anglo South American Trust Co., Kepwick Hall, Barcelona, 40 bls. rags.

Fidelity Trust Co., Kepwick Hall, Barcelona, 73 bls. rags.

S. Birkenstein & Son, Kepwick Hall, Valencia, 82 bls. rags.

Equitable Trust Co., Republic, Bremen, 227 bls. rags.

F. Stern, Stuttgart, Bremen, 64 bls. rags.

Int'l Germanic Trust Co., Caledonia, Glasgow, 37 bls. paper stock.

C. R. Spence & Co., Caledonia, Glasgow, 23 bls. rags.

Brown Bros. & Co., Caledonia, Glasgow, 31 bls. rags.

Baring Bros. & Co., Caledonia, Glasgow, 43 bls. rags.

J. Cohen & Son, Laconia, Liverpool, 16 bls. paper stock.

A. W. Fenton, Inc., American Banker, London, 14 bls. rags.

Int'l Germanic Trust Co., Coahoma County, Rotterdam, 29 bls. rags.

The Barrett Co., Coahoma County, Rotterdam, 44 bls. rags.

Gallagher & Ascher, Coahoma County, Rotterdam, 59 bls. rags.

Brown Bros. & Co., London Exchange, Dundee, 107 bls. paper stock.

Brown Bros. & Co., London Exchange, Dundee, 46 bls. rags.

Castle & Overton, Inc., London Exchange, Dundee, 95 bls. rags.

Int'l Germanic Trust Co., London Exchange, Dundee, 83 bls. rags.

Katzenstein & Keene, Inc., Schodack, Havre, 25 bls. rags.

V. Galaup, Schodack, Havre, 35 bls. rags.

Darmstadt Scott & Courtney, Schodack, Dunkirk, 46 bls. rags.

Katzenstein & Keene, Inc., Schodack, Dunkirk, 44 bls. rags.

(Continued on page 78)

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Ticonderoga, N. Y., U. S. A.

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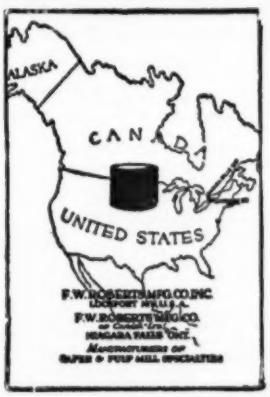

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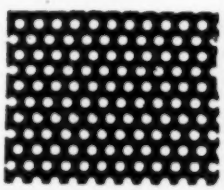

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Imports of Paper and Paper Stock

(Continued from page 76)

V. Galaup, Schodack, Dunkirk, 81 bls. rags.
Cohen & Son, Schodack, Dunkirk, 42 bls. new cuttings.

OLD ROPE

Brown Bros. & Co., Volendam, Rotterdam, 35 coils.
Guaranty Trust Co., Cabo Mayor, Marseilles, 62 coils.
Liberty National Bank, Cabo Mayor, Marseilles, 79 coils.
Banco Com'l Italiane Trust Co., Cabo Mayor, Leghorn, 41 coils.
International Purchasing Co., Buenos Ayres, Vigo, 94 coils.
Brown Bros. & Co., Buenos Ayres, Vigo, 94 coils.
Brown Bros. & Co., Buenos Ayres, Vigo, 56 coils.
Brown Bros & Co., St. Louis, Hamburg, 54 coils.
International Purchasing Co., Exhibitor, Genoa, 224 coils.
Brown Bros. & Co., Republic, Bremen, 63 coils.
J. C. Van Stallie, Schodack, Havre, 90 coils.

CASEIN

Trust Co. of North America, Vandyck, B. Ayres, 167 bags.
T. M. Duche & Son, Southern Cross, B. Ayres, 417 bags.

WOOD PULP

Castle & Overton, Inc., Volendam, Rotterdam, 320 bls. wood pulp.
Castle & Overton, Inc., Coahoma County, Rotterdam, 1700 bls. wood pulp 268 tons.

WOOD FLOUR

The Burnet Co., Volendam, Rotterdam, 20 bags.
State Chemical Co., Coahoma County, Rotterdam, 534 bags, 34660 ks.
Bakelite Corp., Coahoma County, Rotterdam, 1133 bags, 82320 ks.

BOSTON IMPORTS

WEEK ENDING DECEMBER 14, 1929

E. Butterworth & Co., Inc., Kepwick Hall, Barcelona, 45 bls. rags.
E. Butterworth & Co., Inc., Missouri, London, 28 bls. waste paper.
Brown Brs. & Co., Missouri, London, 43 coils old rope.
Baring Bros. & Co., Missouri, London, 199 bls. waste paper.
Baring Bros. & Co., Missouri, London, 25 bls. rags.
Crocker Burbank Co., Missouri, London, 558 bls. waste paper.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 14, 1929

Congoleum Nairn Co., Exhibitor, Leghorn, 325 bls. rags.
Congoleum Nairn Co., Exhibitor, Genoa, 172 bls. rags.
Congoleum Nairn Co., Exhibitor, Marseilles, 442 bls. rags.
Congoleum Nairn Co., Exhibitor, Naples 38 bls. rags.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 14, 1929

Bank of New York, Cabo Mayor, Barcelona, 201 bls. rags.
Tradesmans National Bank, Cabo Mayor, Barcelona, 65 bls. rags.
E. J. Keller Co., Inc., Cabo Mayor, ——, 150 bls. rags.
Castle & Overton, Inc., Anfora, Naples, 83 bls. rags.
Philadelphia National Bank, Exhibitor, Leghorn, 88 bls. rags.
Congoleum Nairn Co., Exhibitor, Leghorn, 138 bls. rags.
V. Galaup, Exhibitor, Leghorn, 113 bls. rags.
F. Weber & Co., Exhibitor, Genoa, 10 cs. printing paper.
Congoleumn Nairn Co., Exhibitor, Genoa, 121 bls. rags.
Paper Service Co., London Exchange, London, 8 rolls wrapping paper.
Phila. National Bank, London Exchange, London, 218 bls. rags.
Pan American Wallpaper Co., London Exchange, London, 5 bls. wallpaper.
Lang Paper Co., London Exchange, London, 40 bls. bagging.
Castle & Overton, Inc., London Exchange, Dundee, 296 bls. paper stock.
Lang Paper Co., London Exchange, London, 152 bls. rags.
W. J. Jones Co., Schodack, Havre, 2 cs. wallpaper.
Katzenstein & Keene, Inc., Schodack, Havre, 206 bls. rags.
Katzenstein & Keene, Inc., Schodack, Havre, 100 bls. bagging.
Castle & Overton, Inc., Schodack, Havre, 543 bls. rags.
J. A. Steer & Co., Schodack, Havre, 37 bls. rags.
D. I. Murphy, Schodack, Havre, 140 bls. rags.
J. A. Steer & Co., Schodack, Dunkirk, 107 bls. rags.
True & McClelland, Schodack, Dunkirk, 70 bls. rags.
D. I. Murphy, Schodack, Dunkirk, 119 bls. rags; 29 bls. bagging.
Katzenstein & Keene, Inc., Schodack, Dunkirk, 264 bls. rags.
E. J. Keller Co., Inc., Schodack, ——, 48 bls. rags.

Lee R. Johnston Dead

CINCINNATI, Ohio, December 16, 1929.—Lee R. Johnston, former president of the Johnston Paper Company of this city died at his home December 11 after an illness of several weeks.

Mr. Johnston had been associated for many years with O. A. Miller, Central Ohio Paper Company, in Columbus. When he left there in 1900, he came to Cincinnati and went to work for the Cincinnati Cordage and Paper Company. Later on, he left that concern and with A. L. Whitaker helped found the Whitaker Paper Company.

In 1915, he with F. H. Albershart formed the Johnston-Albershart Company. The company became the Johnston Paper Company four years ago and two years later Mr. Johnston sold his interests and retired from active life.

Mr. Johnston was prominent in Northern Kentucky and Cincinnati business circles, having been president of The Johnston-Albershart Paper Co., 321 Sycamore St., Cincinnati, for nearly 15 years.

He had lived in Campbell County for 23 years and prior to that time was a resident of Columbus, Ohio.

Mr. Johnston is survived by his widow, Mrs. Cora Johnston, one daughter, Miss Emily Lee Johnston, and one brother Willard W. Johnston, Sandusky, Ohio.

Dexter Williams Goes With Bird Machine Co.

CARTHAGE, N.Y., December 16, 1929.—Dexter Williams, widely known throughout the Northern New York paper industry, has taken a position in the sales department of the Bird Machine Company, of South Walpole, Mass. Since 1926 he has made a wide acquaintance in the paper industry through his work with the sales and service branches of the Paper Makers Chemical Co. in its branches at Holyoke and Carthage. He is the son of Frank M. Williams, head of the Watertown plant of the Williams Apparatus Company, which manufactures various kinds of pulp and paper testing machines.

St. Lawrence To Buy Forestry Tract

CANTON, N. Y., December 16, 1929.—Announcement was made here this week that the forestry department of St. Lawrence University had completed negotiations for the purchase of a large tract of land comprising 65 acres in the towns of Parishville and Stockholm from Delmar Covey. The land is to be used by the foresty department mainly for experimenal and demonstration work in growing different varieties of trees. About 60,000 trees are to be planted on the tract early in the spring.

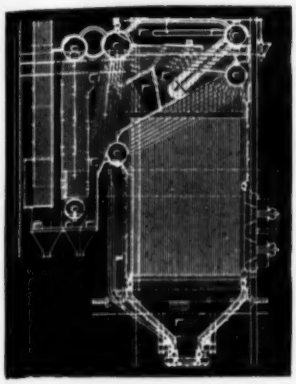
The experimental work will consist largely in attempting to grow different species of trees under varying soil and moisture conditions. In other words it will be shown that certain trees will do well under favorable conditions of soil and moisture while the same trees will not do well under adverse conditions. The trees to be planted will consist of red pine, white pine, Scotch pine, Norway spruce, white spruce and European larch.

Chateaugay Mill To Reopen

PLATTSBURG, N.Y. December 16, 1929.—The High Falls mill of the International Paper Company at Chateaugay will reopen next Monday morning after being shut down since March 2, 1927. The machinery has been overhauled and otherwise placed in good running condition in preparation for the opening and about 100 hands have been recalled. It is expected that business conditions in this dictrict will be considerably improved inasmuch as the resumption of operations means about $150,000 more annually to the residents of Chateaugay. The principal product of the mill is newsprint and it is estimated that the daily capacity is about 26 tons.

Merritt Board Drier

The Technical Economist Corporation, has just issued an interesting new catalogue of the Merritt Board Drier. The use of the Merritt Board Drier, it is claimed, means quicker drying, higher efficiency, smaller units, lower costs and better product. Copies of the new catalogue may be had by applying to the company at 122 East 42nd street, New York.



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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, December 18, 1929.

Trading in the local paper market has quieted down considerably, as usual at this time of the year, and most of the salesmen of the leading paper organizations have been called off the road. The opinion is freely expressed that 1929 has been a satisfactory year, in many ways, and that the outlook for the coming year is favorable, despite the stock market depression. Prices are holding to schedule, in most instances.

Production at the North American news print mills is running at about 83 per cent of capacity and shipments are going forward at a slightly increased pace. Stocks in the hands of the mills at the end of November totalled 52,440 tons which was equivalent to 3.2 days average production. The price situation for 1930 is still obscure.

The paper board market is experiencing a seasonal decline. Prices remain unsatisfactory. The fine paper market is exhibiting a strong undertone and demand for the various standard grades has been well sustained. Prices remain steady and unchanged. Tissues continue active. The coarse paper market has been moderately busy. Wrapping paper is still moving into consumption in heavy volume.

Mechanical Pulp

Conditions in the ground wood market are little changed. Offerings of both domestic and mechanical pulp are decidedly scarce, due to curtailed output both here and abroad. Prices are firmer than for some time past and there is little talk of concessions around at the present time.

Chemical Pulp

The chemical pulp market was only moderately active during the past week. However, both domestic and foreign producers are reported to be well sold ahead on most of the various grades. Strong unbleached and easy bleaching grades of sulphite pulp continue firm. An early resumption of activity is looked for in the coming year.

Old Rope and Bagging

Demand for old rope was irregular and the market was rather quiet. Prices of domestic and imported manila rope were inclined to weaken somewhat. Mixed string moved in fair volume. The bagging market was spotty. While No. 1 scrap bagging was in slightly improved request, little interest was manifested in gunny scrap.

Rags

Paper mill interest in the domestic rag market was almost non-existent during the past week, although cotton cuttings continued fairly steady. Domestic roofing rags were somewhat easier than of late. Some improvement was noticed in the demand for imported rags. Prices were unaltered, in most instances.

Waste Paper

The position of the paper stock market is practically unchanged. Demand for the lower grades is very light at present and little improvement is anticipated until the turn of the year. The better grades of waste paper are holding up well. Soft white shavings are steady and book stock continues fairly active.

Twines

Business in the twine market during the past week was normal for the season. While the holiday demand has practically been filled, small orders for immediate requirements are still coming in, to some extent. Prices are holding to schedule, although competition for extra large orders is keen.

E. H. Naylor Addresses Paper Salesmen

An exceptionally large attendance of members and guests, including many representative trade association executives, gathered at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry last Monday, at the Fraternities Club Building, to welcome the speaker, E. H. Naylor, secretary-treasurer of the Writing Paper Manufacturers Association.

Mr. Naylor took for his subject "Fine Papers, Past and Present, and Their Relation to the Paper Industry." He reviewed the changes that have taken place in the paper industry during the last decade and discounted the problem of over-production, expressing the opinion that every industry should have at least 10 per cent over-production to meet contingencies which may occur.

He also praised the important work being accomplished by the Research Laboratory established by the writing paper manufacturers at Springfield, Mass., in solving the many problems of the industry and in determining the relative qualities of various fibers.

Mr. Naylor declared that the writing paper manufacturers were just completing their best peace time year and that their finances were in excellent condition. Regarding the forthcoming year, Mr. Naylor declared that the business recession in industry would not be noticeable to any appreciable extent.

He said that the writing paper mills had several weeks orders on hand and that by next Spring or Summer the trend would be upwards and that before Autumn conditions would be normal. He expected that business would prove equal to this year, but that profits would be somewhat smaller. His exceptionally interesting address was followed by a spirited discussion.

Japanese Paper Production

The Japanese Paper Manufacturers Association reports production by member mills during the month of September at 59,896 short tons and sales at 58,224 tons, bringing the totals for the first 9 months of the current year up to 532,427 tons and 514,580 tons respectively.

The expansion in the paper manufacturing facilities in Japan, accompanied as it is by the depression of the market due to business conditions, has caused the paper producers to consider some means to prevent a sharp decline in prices. An agreement in regard to curtailing production was entered into in the early months of the current year by certain companies which control over three-fourths of the output of machine made papers, but it was ineffectual in upholding the market prices, and these companies are now understood to be negotiating for the organization of a joint sales guild.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, December 18, 1929.

BLANC FIXE.—No radical changes were reported in the blanc fixe market. Both the pulp and the powder are moving in seasonal volume. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—Trading in the bleaching powder market was rather quiet. Shipments against contract were fairly satisfactory. Prices remain unchanged and there is little talk of concessions. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in large drums, at works.

CASEIN.—Quotations on casein declined slightly. Domestic casein is now offered at from 15 cents to 16 cents per pound. Argentine standard ground is selling at from 15 cents to 15¼ cents, and finely ground at from 15½ to 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is exhibiting a strong undertone. A large part of next years output has already been disposed of. Solid caustic soda is quoted at from $2.90 to $2.95, and the flake and the ground at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Steadiness prevails in the china clay market. The contract movement is well up to average. Prices are holding to schedule. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—The chlorine market was fairly active. Contract shipments were normal. Chlorine is now quoted at $2.75 per 100 pounds, in tanks, or multi-unit cars, at works, for 250 pounds, or over. For less than that quanitity, the quotation is $2.85 per 100 pounds, at works.

ROSIN.—The position of the rosin market is practically unchanged. The grades of gum rosin used in the paper mills are still quoted at around $8.50 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $6.75 to $7.50 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Offerings of salt cake continue decidedly scarce. Demand for this product is very persistent and as a result prices are rising. Salt cake is now quoted at from $22 to $23 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Contract renewals of soda ash are being booked in heavy volume. Shipments are proceeding at a satisfactory pace for the season. Prices remain steady and unchanged. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Production of starch is being maintained in sufficient volume to take care of current requirements. No further price changes have been recorded. Special paper making starch is still quoted at $3.82 per 100 pounds, in bags, and at $4.09 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The sulphate of alumina market was moderately active. Supplies are moving into consumption in satisfactory volume. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Demand for sulphur from the paper mills is well sustained. Prices remain unaltered. Sulphur is quoted at $18 per ton, at mine, for 1,000 tons or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Conditions in the talc market are normal. Shipments against contract are moving in good volume. Prices are generally holding to schedule. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00 @	7.50
M. F.	5.75 @	7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75 @	1.00
Anti-Tarnish	1.35 @	1.90
Colored	1.00 @	2.00
White No. 2	.75 @	.80
Kraft	1.00 @	1.10
Manila	.75 @	.80
Kraft—		
No. 1 Domestic	6.25 @	6.50
No. 2 Domestic	5.00 @	5.50
Southern	4.45 @	4.70
Imported	6.50 @	7.00
Manila—		
No. 1 Jute	9.00 @	9.25
No. 2 Jute	7.75 @	8.50
No. 1 Wood	4.75 @	5.25
No. 2 Wood	4.00 @	4.50
Butchers	3.75 @	4.25
Fibre Papers—		
No. 1 Fibre	5.00 @	5.50
No. 2 Fibre	4.75 @	5.25
Common Bogus	2.75 @	3.00
Screenings	3.00 @	3.25
Card Middles	4.00 @	5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00 @	—
Rolls, spot	62.00 @	—
Sheets	67.00 @	—
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@40.00
Straw	52.50	@55.00
Chip	35.00	@37.50
Binders' Boards	65.00	@70.00
Wood Pulp	80.00	@85.00
65 Test Jute Liner	45.00	@47.50
85 Test Jute Liner	50.00	@55.00
Sgl. Mla. Ll. Chip	47.50	@50.00

Mechanical Pulp
(On Dock)

No. 1 Imported—		
Moist	30.00	@32.00
Dry	32.00	@34.00
(F. o. b. Mill)		
No. 1 Domestic	26.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.75 @	4.25
Easy Bleaching	3.00 @	3.15
No. 1 strong unbleached	2.75 @	3.00
Mitscherlich unbleached	2.80 @	3.25
No. 2 strong unbleached	2.40 @	2.60
No. 1 Kraft	2.35 @	2.50
No. 2 Kraft	2.30 @	2.40
Sulphate—		
Bleached	3.40 @	3.85
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.20 @	4.75
Easy Bleaching Sulphite	2.65 @	3.00
News Sulphite	2.50 @	2.70
Mitscherlich	3.00 @	3.25
Kraft (Domestic)	2.10 @	3.30
Soda Bleached	3.10 @	3.25
Sulphate Screenings—		
Coarse	.75 @	.95
Refined	1.65 @	1.85

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	10.50	@11.00
New White, No. 2	8.00 @	8.50
Silesias No. 1	7.50 @	8.00
New Unbleached	11.00	@11.50
New Blue Prints	5.25 @	5.50
New Soft Blacks	5.25 @	5.75
Blue Overall	7.50 @	8.00
Washables	4.75 @	5.25
Fancy	5.75 @	6.25
Mixed Khaki Cuttings	4.75 @	5.25
Pink Corset Cuttings	8.00 @	8.50
O. D. Khaki Cuttings	5.15 @	5.75
Men's Corduroy	3.75 @	4.25
New Mixed Blacks	3.50 @	3.75

Old Rags

White, No. 1—		
Repacked	5.50 @	6.00
Miscellaneous	4.50 @	5.00
White, No. 2—		
Repacked	3.00 @	3.50
Miscellaneous	2.50 @	2.75
St. Soiled, White	2.00 @	2.15
Thirds and Blues—		
Repacked	2.25 @	2.50
Miscellaneous	1.75 @	2.00
Black Stockings	3.25 @	3.75
Roofing Rags—		
Cloth Strippings	1.70 @	1.80
No. 1	1.70 @	1.80
No. 2	1.55 @	1.65
No. 3	1.30 @	1.40
No. 4	1.25 @	1.35
No. 5A	.90 @	1.05

Foreign Rags
New Rags

New Dark Cuttings	2.50 @	3.00
New Mixed Cuttings	2.75 @	3.25
New Light Silesias	7.00 @	7.50
Light Flannelettes	7.50 @	8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00 @	7.50
New Light Prints	5.50 @	6.50

Old Rags

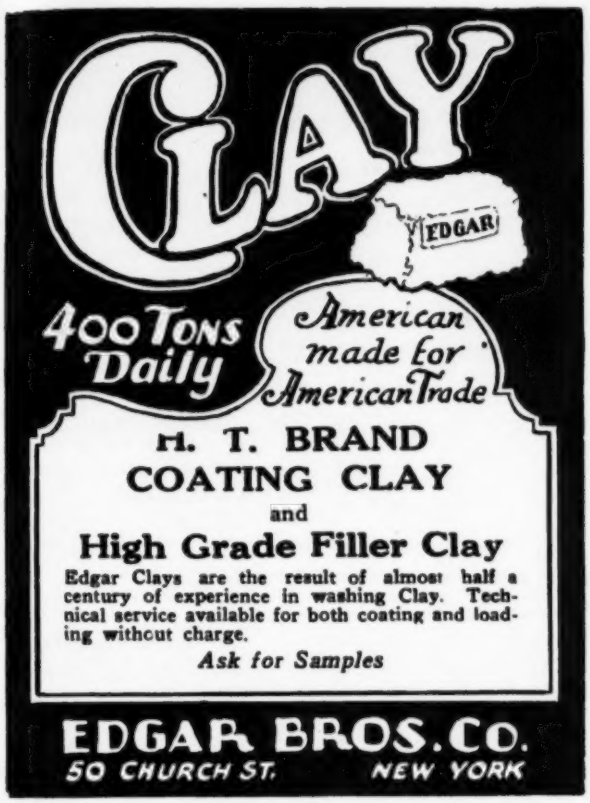
No. 1 White Linens	7.25 @	8.00
No. 2 White Linens	5.75 @	6.75
No. 3 White Linens	4.75 @	5.25
No. 4 White Linens	3.00 @	3.50
No. 1 White Cotton	5.50 @	6.50
No. 2 White Cotton	4.50 @	5.50
No. 3 White Cotton	3.00 @	4.00
No. 4 White Cotton	2.00 @	2.10
Extra Light Prints	2.75 @	3.25
Ord. Light Prints	2.25 @	2.50
Med. Light Prints	1.95 @	2.10
Dutch Blue Cottons	2.20 @	2.35
French Blue Linens	2.75 @	2.85
German Blue Linens	2.35 @	2.55
German Blue Cottons	2.10 @	2.20
Checks and Blues	1.85 @	2.00
Lindsay Garments	1.85 @	1.95
Dark Cottons	1.55 @	1.60
Old Shopperies	1.50 @	1.55
New Shopperies	1.50 @	1.55
French Blues	2.10 @	2.25

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.50 @	1.60
Domestic	1.60 @	1.70
Wool Tares, light	1.60 @	1.65
Wool Tares, Heavy	1.60 @	1.70
Bright Bagging	1.60 @	1.70
Small Mixed Rope	1.25 @	1.40
Manila Rope—		
Foreign	4.40 @	4.60
Domestic	4.75 @	5.00
New Burlap Cut	2.75 @	3.00
Hessian Jute Threads—		
Foreign	3.50 @	4.00
Domestic	3.25 @	3.50

Old Waste Papers
(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00 @	3.25
Hard, white, No. 2	2.40 @	2.55
Soft, White, No. 1	2.40 @	2.55
White envelope cuttings	2.90 @	3.10
Flat Stock—		
Stitchless	1.45 @	1.55
Overissue Mag.	1.45 @	1.55
Solid Flat Book	1.40 @	1.50
Crumpled No. 1	1.00 @	1.10
Solid Book Ledger	2.00 @	2.10
Ledger Stock	1.40 @	1.50
New B. B. Chips	.45 @	.55
Manilas—		
New Env. Cut	2.40 @	2.60
New Cuttings	1.50 @	1.75
Extra No. 1 old	1.25 @	1.35
Print	.60 @	.65
Container	.40 @	.50
Bogus Wrapper	.60 @	.65
Old Kraft Machine Compressed bales	1.65 @	1.75
News—		
No. 1 White News	1.65 @	1.75
Strictly Overissue	.65 @	.70
Strictly Folded	.55 @	.60
No. 1 Mixed Paper	.25 @	.30
Common Paper	.15 @	.20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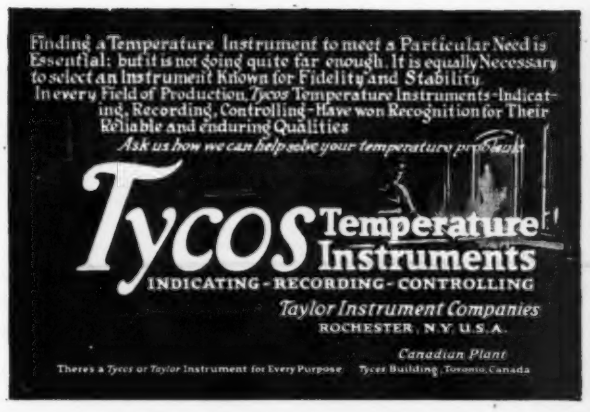
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Quarries
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Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.33¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.20	@	2.25
White Env. Cuttings	2.40	@	2.50
No. 1 Soft Shavings	2.00	@	2.10
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.40	@	1.50
Krafts	1.60	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.70	@	.75
Folded News (overissue)	.65	@	.70
Old Newspapers—			
No. 1	.65	@	.70
No. 2	.55	@	.65
Mixed Papers—			
No. 1	.50	@	.60
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.06	@	.40
Ledgers	.09	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.10	@	.20
Book, M. F.	.05½	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.09½	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.08	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.06	@	.06½
No. 1 Kraft	.06½	@	.07
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	40.00
Chip Board	35.00	@	47.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.20	@	3.25
No. 2 Hard White	2.75	@	3.00
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.80	@	1.90
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.85	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.40	@	1.50
No. 2 Books, light	1.05	@	1.15
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.95	@	1.00
Container Manila	.85	@	.90
Old Kraft	2.25	@	2.50
Common paper	.50	@	.55
No. 1 Mixed Paper	.60	@	.65
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.80	@	.85
Old Newspaper	.50	@	.55

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
White, No. 2	2.60	@	2.75
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01¼	@	.02
No. 2	1.30	@	1.35
No. 3 (Roofing)	1.15	@	1.25
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.04½	@	.05½
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009	52.50		
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	50.00	@	—
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.50	@	1.60
Old Kraft	.165	@	1.85
Print Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.35
Overissue News	.60	@	.70
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.50

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.50
Manila Rope—			
Foreign	4.37½	@	4.50
Domestic	4.50	@	4.75
Transmission Rope	—	@	3.00
Mixed Strings	1.00	@	—
Jute Wool Strings	1.00	@	1.05
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.37½	@	1.50
Scrap Sisal	1.80	@	2.00
Scrap Sisal for shredding	1.85	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	3.00	@	3.12½

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.09½	@	.10
Silesias, No. 1	.06	@	.06¼
New Unbleached	.10	@	.10½
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.45	@	1.55
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	1.55
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.75	@	5.00
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.00		—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

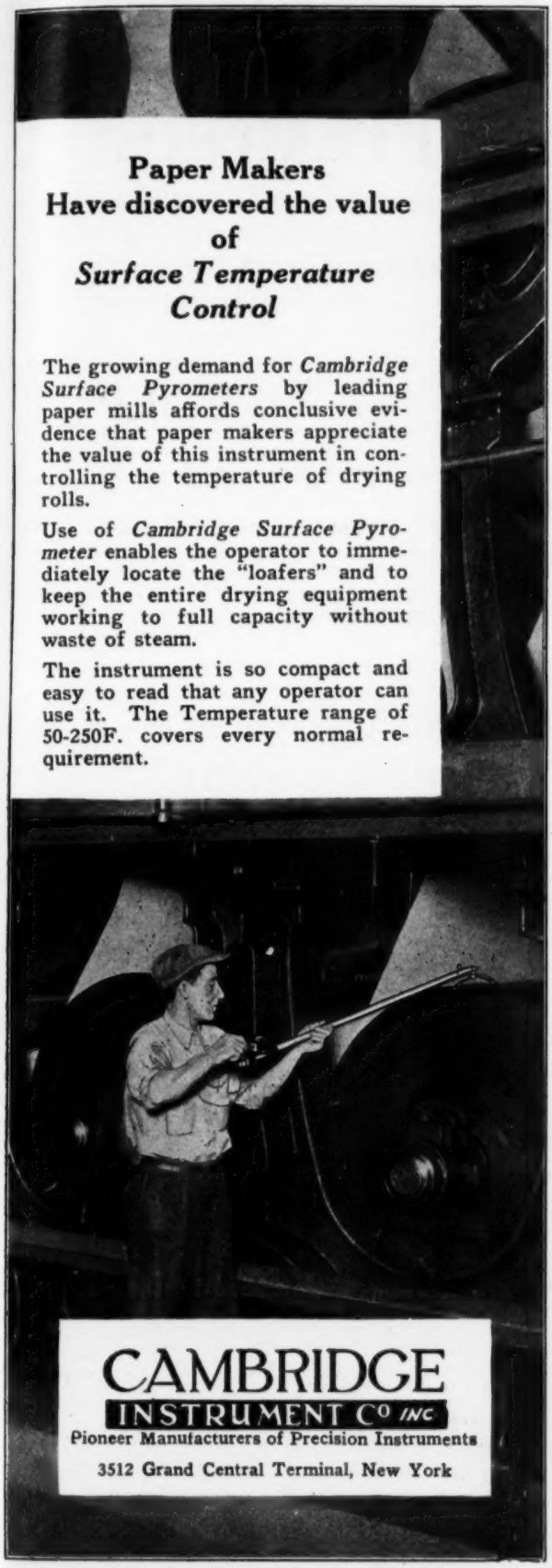
Ground Wood	31.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06¼



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